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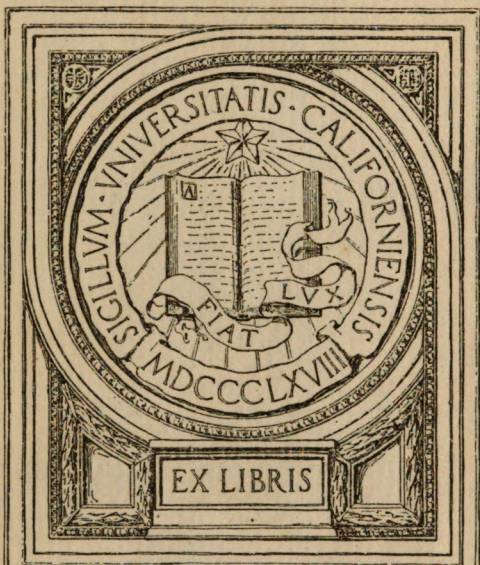
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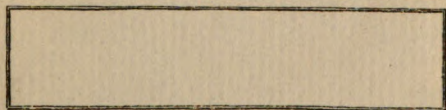
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**EDUCATION AND THE
GENERAL WELFARE**



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EDUCATION AND THE GENERAL WELFARE

A TEXTBOOK
OF
SCHOOL LAW, HYGIENE, AND
MANAGEMENT

BY
FRANK K. SECHRIST, PH.D.
Professor of Education, University of Cincinnati

New York
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1920

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PREFACE

This book is an outgrowth of classroom work in a course of school law, hygiene, and management, as offered to juniors in preparation for teaching and to others who in pursuit of liberal studies regard a knowledge of this subject-matter as essential to intelligent citizenship.

As a text-book in management, its central theme is the school as a part of community life and the individual child as the dominant interest of the school. It aims to extend the scope of the subject beyond its traditional limits, the four walls of the schoolhouse. Since the public school cannot lead a cloistered existence but must register an appreciable effect upon the community of which it forms a part, it cannot afford to ignore the forces of indifference from without that may nullify its every effort. A study of the causes of illiteracy, child labor, and non-attendance, and opposition to them, is a part of the campaign against ignorance.

But while aiming to give a comprehensive view of the whole school situation, the book considers at the same time the everyday problems of the schoolroom and the details of pupil management. However, the principles of discipline held to, it is hoped, will be found not altogether peculiar to the school but also applicable in the home and equally useful for self-management in the conduct of life anywhere. For the general guiding principle is that of hygiene, and this as applied to the mental and moral as well as to the physical realm. The policy of preventing ills

is, however, regarded as complementary to that of providing the means and opportunities for positive character growth in all the activities of school life. The concept of health is regarded as applicable to every kind of functioning, and moral values are kept in mind even before the distinct beginning of moral responsibility in the school child. In the application of psychological principles to the matter of establishing favorable attitudes, school management enters a promising field. From this point of view, it will gain a clearer and larger psychological content and more and more stress conditions of learning as distinguished from methods of teaching.

The teacher and the class, of which the largest school systems are but multiples, is, of course, the typical situation of management held in mind throughout the book. It is not addressed to the administrator, but its subject-matter is related to those general aspects of management that every teacher should appreciate in order to be in a position to co-operate intelligently in measures that seek the highest good of the school system by way of the classroom. While the elementary school, as the most numerous of all schools, is frequently referred to throughout the text, the book was prepared for use in classes in which all the teachers of a complete system may be represented.

The book covers a wide range and does not aim at completeness in any direction. All its topics should, however, stimulate inquiry and further discussion. The statistical tables, in some cases given without textual comment, will in themselves offer data for supplementary work of this character. Thus the work which is here mapped out to cover a three-hour course for half a college year, may be expanded so as to provide material for twice this scope.

In the list of books and pamphlets given under the head of Selected References, certain important titles that may seem to have been ignored will in nearly all instances be found included in the bibliographies of one or more of the references in the list. The references in the text are cited as authority for the statements made or to suggest further study from the same or a different point of view.

The writer acknowledges obligations in general to his colleagues, his students, and to teachers of Cincinnati and vicinity, incurred both before and after the purpose to write a book had been formed. More particularly, to Dean William P. Burris, of the College for Teachers, University of Cincinnati, is due the original suggestion that the course out of which the book has grown be planned to provide information necessary to the fulfillment of certain state requirements for a teachers' life certificate. When the work began to take final form, he made a critical reading of the manuscript, and he gave much encouragement all along the toilsome way. Others who made criticisms and suggestions or assisted in other helpful ways were Miss Frances Jenkins, assistant professor in the College for Teachers, Whitelaw Reid Morrison, M.D., professor of physical education, University of Cincinnati, Principal George H. Shafer, of the Willimantic (Conn.) State Normal School, and the writer's wife, Anna Eldon Sechrist. But the author alone remains responsible for the content of the work and its organization, and for any errors that may have escaped correction.

F. S.

Cincinnati, Ohio,
November, 1919.

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EDUCATION AND THE GENERAL WELFARE

CHAPTER I

THE GENERAL WELFARE

It is at all times the paramount purpose of good government to promote the general welfare. A wide diffusion of knowledge among the people has from the beginning of our history been furthered by various acts of legislation as a means to this end. While to develop and conserve the country's resources and foster a widely distributed material prosperity is a moral obligation, it has always been our political philosophy that a nation's greatness is not ultimately in mines and forests and prairies, but in the character of the people, in their ideas and sentiments; and that its power is not in armies and navies, but in the invisible ideals for which men and women are willing to lay down their lives.

To support a system of schools for all the people for the purpose of cultivating ideals and developing character is a national political strategy of the first order. It is the permanent line of the national defense. It is a nation's insurance against death by stagnation or destruction by violence. It is a vital part of the national economy. Public education is our common cause, however people may differ in party politics or religion. It is a means of organizing the per-

2 *Education and the General Welfare*

manent forces of American life. In its broader mission it reaches three generations: the group of children in school, their parents, and, in the course of time, the generation to come — all in one message that goes home.

The Resources of the Mind. The wealth of a nation is human. The ultimate resources of the individual and the nation for both happiness and prosperity are within. That happiness does not depend on material wealth, that it is the mind that makes the body rich, that who would be free must free his mind from sordid passions, must love virtue and justice and be an active champion of righteousness — all these are familiar truths of the literature of freedom and the moral basis of good citizenship.

But to these lessons of democracy must now be added that the resources of material prosperity and national defense are also of the mind, that when the forces of a nation are summoned to meet a great crisis it is not enough to be schooled in the abstract principles of freedom and duties of citizenship. Now what a man has done or can do in times of peace is called into service. Now it will appear whether his body is strong and alert to serve the will and what his training in other respects has prepared him to offer.¹

Our country has passed through several stages of eco-

¹ "The most formidable institution we had to fight in Germany was not the arsenals of Krupp or the yards in which they turned out submarines, but the schools of Germany. They were our most formidable competitors in business and our most terrible opponents in war. An educated man is a better worker, a more formidable warrior, and a better citizen. That was only half comprehended before the war."—Lloyd-George in a speech at Manchester, as reported in the *Survey*. November 9, 1918.

conomic development. The first was a period of exploration of the vast domain, the age of the pioneer and of individual enterprise. The next was the period of exploitation and waste, of individual and collective enterprise. Before the World War we had already entered upon the present period of coöperative enterprise, of organization and conservation of our resources. We had come to the bounds of the geographical frontier and had come to see our limits in all directions. The beginning of the War revealed a lack of industrial unity, a limited food supply, a congested transportation system, and a national spirit diluted by many diverse racial elements. We learned that there is a national physiology as well as a national psychology. The War intensified and accelerated the conservation movement. It was found that, while our resources are great, they are exhaustible and that there are limits to our fabulous wealth. The multi-millionaire could have financed the War for only a few days. The failure of one year's crop of wheat would have jeopardized the fruits of civil liberty gained in centuries of conflict.

To make more of our material resources, we must fall back on the resources of the mind. These are by their nature inexhaustible. We must keep extending the intellectual frontier. "For the prevention of waste the most effective means will be found in the increase and diffusion of knowledge, from which is sure to result an aroused public sentiment demanding prevention."¹

For the increase of production we depend also on educational development. The animal adapts himself to the environment; man adapts the environment to himself. A

¹ From the Report of the National Conservation Commission, 1909.

country possesses material resources only in so far as the intelligence and skill of the people can make them available. The soil is fertile only as it can be made to yield profitable crops. Deposits of iron and coal are rich only as related to useful industry. The nitrogen of the air has no commercial value unless we have the science to extract it. The natural wealth of a country affords but a scant subsistence to an ignorant people. If they cannot rise to their country's opportunities they may become the victims of conquest or of peaceful penetration. The mind of a people is the chief source of wealth as all other resources depend on its productive power.

"Tilling the soil even with so perfected a tool as a good spade, it would take 560 seasons to turn over a square mile of land, 640 acres. A man with a team and good plow can do it in 4 seasons. Twelve men with three mechanical tractors and fifty-one plows in a gang can turn it over in 36 hours.

"At \$2.00 a day, man power costs per horse power, \$54,000 per year of 7,500 hours. In a small gasoline engine it costs \$300 a year per horse power; for large power installations, whether steam, gas, or electrical, it costs from \$20 a year up to \$200 per horse power. Man power costs therefore from 135 to 1,350 times as much as uncarnate power.

"On the average each adult man is supplemented by 22 mechanical slaves whose keep averages less than one four-hundredth of his own value of \$2.00 a day."¹

To increase production and conservation and use of the product is the constant problem of the world's growing population. In all the universe the mind of man is the only means of solving it.

¹ Emerson: "Twelve Principles of Efficiency," New York, 1916, p. vii-ix.

The Content Aim of Education. It is the function of the school primarily to teach that knowledge which the race has found necessary to its continued existence is contentment and happiness, and to discover the place in the social economy of individual capabilities. All this includes the conservation of life and health, the protection and care of property, and the promotion of industry and thrift. To aid in securing the power of self-support is the irreducible minimum of what the school must do for every child. And this for self-respect and moral development as well as for the prosperity and security of the state.

But the aims of education cannot be justly phrased in so brief a way. There are maximum and minimum aims according to individual capacities. And not all desirable knowledge is of equal importance. What is of first importance is not necessarily the first to acquire. There are five major interests which popular education must to a certain extent satisfy. They come in the following order of importance:¹ I. Economic independence. II. Care of offspring. III. The Social interest. IV. The Political interest. V. The Interests of Leisure. *Health is fundamental to all.*

It is evident that the power to supply an economic need in a community takes precedence of all other interests. To be able to make a living comes first. If the ability to provide for himself food, clothing, and shelter without assistance fails a young man, he should refrain from entering the relation which brings responsibility for the second (II). If he is an economic charge he cannot become a social bless-

¹ Spencer, Herbert: "Education," New York, 1900, chap. I, D. Appleton and Company.

ing (III). And as for the fourth (IV), only when one has attained the first (I) can he properly concern himself with the political rights of a freeman. Any one who can make an honest living will readily comprehend the ordinary duties of citizenship, even though he have meager scholastic attainments. On the other hand, one might be well versed in the theory of government and yet be a menace to the state if that is his only means of support. Finally, the interests of leisure (V) are only for him who by his industry and thrift has accumulated a surplus over and above the cost of food, clothing, and shelter, and has *earned* his leisure.

Accumulations of wealth represent the power of leisure derived from productive labor, and the value of the wealth in any case depends on how the leisure afforded is employed. A certain amount of leisure is the inalienable right of the humblest person. The way it is spent will in all cases measure the value of the energy and thrift that earned it.

In a general way, under the first head (I) comes the money-making enterprise. This is related to the others in so far as it supplies certain of their indispensable material needs. But the others in their own province are not primarily fields for the accumulation of wealth, although in an advanced state of society service in them may be prepared for by special training and used as a means of gaining a livelihood. For example, care of offspring is the parent's duty. He owes it to the child, the community, and the state. A part of this service has become so large that it must be delegated to trained assistants; and it has become so important that the state now usually takes the place of the parent, as a means of making its own future secure. But if the sole object of any of the agencies engaged in this work is not

the supreme good of the child, the common sense of humanity condemns the process as wicked exploitation.

And service to the community and to the state to be honorable must be free and non-remunerative. To be a good citizen one must be a good neighbor and give his time freely for the good of the community. To receive money for a vote or hold office to accumulate wealth is civic treason. A paid representative of the people in any capacity receives a supposed equivalent for loss of time and opportunities in a regular occupation or profession.

Among the interests of leisure are recreative sports and games, music, literature, drama, and the fine arts. Here we have on the one hand creative pleasure and artistic satisfaction as the controlling motive; on the other, the pleasures of appreciation. To give further emphasis to the importance of leisure, it is only necessary to add that it includes the time occupied in that which for many represents the highest type of human enjoyment — religious devotions and public worship. This interest of leisure is the special province of the church and other religious institutions. However, the school can inspire reverence for all religious aspirations.

It is to be especially noted that health is a fundamental condition to the exercise of every activity. Physical vigor has a direct relation to the service of the state. Keeping fit is a social and a patriotic duty. Since no interest can be pursued without health, not even the enjoyment of leisure, keeping well is the prime economy, the first means to all other ends. However, the school was not instituted for the purpose of gaining health but rather for its conservation. It is not a sanitarium. One does not go there to seek lost

health but to seek knowledge. Still school conditions and requirements must not interfere with normal growth in height and weight. The physical vitality of the child must be raised rather than lowered by its experience in school.

The Formal Aim of School Work. If we ask what activity in the child the school ultimately seeks to stimulate, the answer to be given is more than a hundred and fifty years old in the history of education. It is: "inner self-activity." This may be called the formal aim of school work in distinction from the content aim. In the one the chief goal is economic independence, in the second it is independence of thought. These two attainments are of greater value to the individual than any amount of formal study of patriotism and government without these two. The largest part of good citizenship is to be able to make an honest living and to do one's own thinking.

School Work Aims at the Individual; not at the mass but at the individual in the mass. All planning, organizing, thinking, is in the first place individual. The teacher must keep track of the individual minds composing a class and not expect any of them to be swept along by the momentum of the whole.

Maximum and Minimum Aims. Since all children are now required to go to school, it will be found that the same maximum aims that have been outlined as the major life interests cannot be reached in all the children on account of differences in natural endowments, and that there will be some who are limited not in one but in all possible directions of advancement. Hence it must be the aim of the school to train each child to the limit of its capacity to receive training. In some children this will be reached be-

fore the end of the elementary period, but in most cases the training can, as everybody knows, be continued much beyond that period.

Illiteracy. On account of local indifference to the work of the school, public education in the United States has not reached in many places even minimum aims. According to the Secretary of the United States Department of the Interior, there were brought into the United States army in the first draft of recruits (1917) between 30,000 and 40,000 illiterates and almost as many near-illiterates. In a letter on the situation he said of them:

They cannot sign their names.

They cannot read their orders posted daily on bulletin boards in camp.

They cannot read their manual of arms.

They cannot read their letters or write home.

They cannot understand the signals or follow the signal corps in time of battle.

In one of the southern camps it was found that illiterate draftees of American stock did not know the name of the county from which they had come, they did not know what is meant by "county seat," they could not tell their age, could not command the distinction between right and left for the purposes of drill. The questionnaire was a futile method of gaining information from them; they could not read it nor could they understand its terms, *exemption, dependents*, etc.

Masses of our unassimilated foreigners who were drafted into the army had to learn to pronounce in broken English: "Halt! Who goes there?" and "Advance and give the countersign."

It was decided by Congress in 1917 that illiterate foreigners must no longer be admitted into the United States. In our earlier history the foreign element came mostly from the north and west of Europe, from countries nearly all of which have a lower percentage of illiterates among the population than our own. When the immigrants came from eastern, central, and southern Europe there was a large influx of illiterates. They came in part from Austria with 13.7, Hungary with 33, Roumania with 60.6, Russia with 69, and Serbia with 78.9 per cent of illiterates among the population. We had been making fair progress in reducing illiteracy in our native population both white and colored, but among the foreign-born it had considerably increased by 1910. According to the Report of the Census taken that year there were 5,516,163 persons classed as illiterate, or 7.7 per cent of our total population of ten years and over. It has been estimated that the total number of illiterates equals the total population of 372 cities having between 10,000 and 25,000 inhabitants, and that it is larger than the combined population of Philadelphia, St. Louis, Boston, Cleveland, Baltimore, Pittsburgh, and Cincinnati.

In 1900, 8.4 per cent of the total voting population were unable to read and write. In 1910 the number had increased. Although the bulk of the illiterate immigrant population settles at first in the large cities, the rural districts contain nearly twice the proportion of all illiterates compared with the cities, where amalgamation goes on more rapidly because isolation is more difficult, and where opportunities for learning to read and write in the prevailing language are more eagerly seized upon by the aspiring foreigner.

The percentage of illiterates in the several states is given in the following Chart, the state with the smallest number being placed first and so on:

CHART I

Rank	State	Per cent of illit- erates	Rank	State	Per cent of illit- erates
1.	Iowa	1.7	26.	New York	5.5
2.	Nebraska	1.9	27.	New Jersey	5.6
3.	Oregon	1.9	28.	Oklahoma	5.6
4.	Washington	2.0	29.	Pennsylvania	5.9
5.	Idaho	2.2	30.	Connecticut	6.0
6.	Kansas	2.2	31.	Nevada	6.7
7.	Utah	2.5	32.	Maryland	7.2
8.	South Dakota	2.9	33.	Rhode Island	7.7
9.	Minnesota	3.0	34.	Delaware	8.1
10.	Indiana	3.1	35.	West Virginia	8.3
11.	North Dakota	3.1	36.	Texas	9.9
12.	Michigan	3.2	37.	Kentucky	12.1
13.	Ohio	3.2	38.	Arkansas	12.6
14.	Wisconsin	3.2	39.	Tennessee	13.6
15.	Wyoming	3.3	40.	Florida	13.8
16.	California	3.7	41.	Virginia	15.2
17.	Colorado	3.7	42.	North Carolina	18.5
18.	Illinois	3.7	43.	New Mexico	20.2
19.	Vermont	3.7	44.	Georgia	20.7
20.	Maine	4.1	45.	Arizona	20.9
21.	Missouri	4.3	46.	Mississippi	22.4
22.	New Hampshire	4.6	47.	Alabama	22.9
23.	Montana	4.8	48.	South Carolina	25.7
24.	District of Columbia	4.9	49.	Louisiana	29.0
25.	Massachusetts	5.2			

The Allegiance of the Spirit. In this day and age those who are literate in no language are men without a country. They stay for a time in a modern state but are not of it. With a bodily presence in the twentieth century, their minds

date back to 1600 and beyond, and not even to what is best in those remote periods. Without the power to read they cannot enter into communion with the spirit of the times and can have no proper conception of national ideals.

The allegiance of the spirit holds usually with the country whose language one speaks and whose literature he reads. This is ultimately a stronger tie than blood or trade relationship. It is the true cohesive force of national unity. In any country with a large immigrant population like ours, the use of the language of the adopted country will be a permanent minimum aim of educational endeavor. The immigration law of 1917 permits entrance to those who are literate in any language. It excludes only "all aliens over sixteen years of age, physically capable of reading, who cannot read the English, or some other language or dialect, including Hebrew or Yiddish." In 1910, 22.8 per cent of our entire foreign population could not speak the English language. When this population is massed in large colonies as in the northern and eastern section of the country the number of those who cannot speak English rises as high as 76 per cent.

The foreign white population 10 years of age and over who are unable to speak English, grouped on the basis of age, is as follows:

Age	Number
10 to 14	56,405
15 to 19	227,649
20	103,345
21 to 24	394,166
25 to 34	902,949
35 to 44	538,798

Age	Number
45 to 54	324,865
55 to 64	192,488
65 and over	201,709
Age unknown	10,637
Total	2,953,011

According to these figures there were 2,565,612 over twenty-one years of age. Of these only 1.3 per cent were in school. But since 1910 there has been a large increase in the number of non-English speaking foreigners. About the year 1914 there had come such a large influx of foreign workmen into many of our large cities that they could not be assimilated with our industrial, social, and political life in the ordinary way. They could not read the danger signs in the establishments in which they were to work and they could not find their way about without help. The problem presented itself as not one of social service but civic necessity.

Measures to Reduce or Wipe Out Illiteracy. Since the illiterate immigrant over sixteen years of age is no longer admitted and since recent amendments to the naturalization laws provide that "no alien shall hereafter be naturalized or admitted as a citizen of the United States who cannot speak the English language"¹ and write his name, limits have been drawn around the problem of nationalization so that now a hopeful beginning can be made to stamp out or at least greatly reduce illiteracy in the English language.

For more than thirty years Massachusetts has had a law

¹ "Naturalization Laws and Regulations," February 1917, Washington, D. C.

in force requiring illiterate minors over 14 to go to night school if living in a city maintaining such a school. In 1898 instruction in the English language was added to the curriculum of these schools. In 1913 the requirement for passing was that of the fifth grade of the ordinary day school. In 1916 there were 21 such night schools in Boston alone and out of 9500 enrolled 8000 were of foreign birth.

A number of the states extend the compulsory attendance limit for the special benefit of illiterate youth. In Massachusetts alone ¹ the upper limit is 21, five years higher than that of any other state. When, as in this state, attendance at evening schools only is required, leaving the day free for remunerative employment, there is no apparent reason why the age limit for attendance at these schools should not be much higher than even the requirement in Massachusetts.

In the state of Kentucky a movement was begun several years ago by a county superintendent of schools to wipe out illiteracy. The endeavor was first limited to one county where the interest of the teachers of the regular day schools was enlisted to such an extent that they opened "moonlight schools" for adult illiterates which they conducted in the evening. Those who took advantage of the opportunity to learn to read and write ranged in age from 18 to 87. The curriculum embraced, besides reading and writing, arithmetic, history, geography, agriculture, civics, home economics, and road building. The subject-matter of the reading lessons was such as had something to do with the civic and home interests of the learners — roads, silos, seed-testing, crop rotation, ways of cooking, etc. The interest of

¹ A New York law of 1918 requires compulsory continuation schooling for illiterates between the ages of 16 and 21.

the people of the state was aroused to such an extent by the success of the experiment in a single county that an Illiteracy Commission was authorized by the state legislature to make the movement state-wide and drive illiteracy from Kentucky by 1920. Five other states have followed the lead of this state in establishing evening schools for such purposes in rural districts.¹

In the cities, especially in the larger industrial centers with a large immigrant population, there are schools for those who wish to prepare for naturalization. They are held in the evening in the school buildings and courses are given in the use of the English language and in the duties of citizenship. In 1917 there were 500 cities in which such courses were given. In some of the cities large employers of labor coöperated with the school administration by making naturalization a condition of promotion and advancement in wages. In many cities school buildings are open both summer and winter evenings for the instruction of foreigners in the language and ways of American life as a preparation for naturalization. Courses are completed at stated intervals and the graduates appearing before the court and without further examination, are invested with the honors of American citizenship.

The controlling idea of the later phase of the movement is that foreigners shall be nationalized before they are formally naturalized. Thus the scope of the work has enlarged so that it is now generally known as the Americanization movement. Its object is not alone to teach the alien to speak and write English, vote intelligently, and understand something of the fundamental laws of the land,

¹ Stewart: "Moonlight Schools," the *Survey*, Vol. 35, p. 429-431.

but also to make him feel at home and happy here. This last seems to be the final test of nationalization.

To further these purposes a social center has been established in a few cities known as "The American House" where the foreign-born may "assemble voluntarily in natural and self-selected groups for the purposes of instruction, recreation, and amusement." ¹

For the Sake of the Children. While it is true that illiteracy makes for economic and mental dependence, for isolation from a large part of a normal social life and from the great world of opinion which is more and more expressed in printed form, and for ignorance with its train of superstitions, it should be banished from adult life in America chiefly for the sake of the children. One may readily imagine the barrenness of life in an illiterate home and the handicap to the immigrant child with no means at home to aid in forming thought in the prevailing language of the community and the adopted country. Returns from an investigation lately made of the school population of one of our largest industrial centers show that approximately one-half the children in the elementary schools and one-third in the high schools are from homes in which one or another of twenty-nine different foreign languages is spoken. It was found too that "the children of foreign parentage do not advance so rapidly through the grades as those of native parentage and they drop out much faster in the upper grades." ²

¹ "School Life," Vol. I, November 1, 1918, p. 10, and Senger: "The American House," the *Survey*, Vol. XLI, No. 22, March 1, 1919, p. 788-790.

² Miller: "The School and the Immigrant," The Survey Committee of the Cleveland Foundation, Cleveland, Ohio, 1916.

Americanization of Immigrant Children. Children of approximately 60 different nationalities are to be found in our school population. The United States Bureau of Immigration keeps track of every immigrant child wherever it goes from the port of entry until it is enrolled in some elementary school. From that time on its educational destiny is in the hands of the local school administration. We must look to the elementary school provided by local authorities with the necessary material equipment and capable teachers; the elementary school with its work in English, its standards of health and hygiene, and its ideals of social order, for the larger results of Americanization. Here the work of benevolent assimilation will be the most thoroughgoing and effective in that it will reach the present child and the future citizen, and not only the child but also the foreign home from which it comes.

The Future of American School Children. We must look to the elementary school. It is the common academic beginning for all the diverse trades and professions.

CHART II

Field of Activity	Number Engaged Millions	Approximate Number of Occupations
Agriculture	12½	30
Manufacturing and Mechanical Industry	10½	186
Trade and Transportation	6	84
Domestic and Personal Service...	3½	29
Professional Service	1½	31
Clerical Occupations	1½	12
Extraction of Minerals	1 (nearly)	14
Public Service	½	16

Twenty million children come daily to this school to be prepared to take their places among 37 or 38 million workers in gainful pursuits. Chart II gives the distribution and the approximate number of specified occupations.

It will be observed that in order to serve the greatest number of future workers our educational institutions must not be partial to public service and the professions as these in some instances already oversupplied constitute only two out of 37 million of gainful occupations. As will be seen, the largest number of workers are in the field of agriculture, manufacturing and mechanical industry, and trade and transportation.

There is to be noted too a marked difference between agriculture and the other two fields of work just mentioned. With its $12\frac{1}{2}$ million workers there are only 30 specified occupations, including a relatively small number of industries not directly related to the work of the actual farmer. It appears, therefore, that agriculture gives us by far the largest body of workers and that it is by far the least differentiated as to specified occupations. Hence the future vocational needs of the children in the rural districts can be fairly well anticipated by those who make out courses of study and consider the question of minimum essentials in any of the preparatory courses.

But in the two largest industrial fields besides agriculture, there is a wide differentiation of occupations and it becomes relatively difficult to anticipate in school the specific needs of the future workers. For those pupils who look forward to entering a skilled trade, there may be offered a general industrial training course after the sixth grade of the elementary school has been successfully completed, this to be

followed by courses in technical high schools and colleges. For the semi-skilled or the unskilled the school cannot prepare at all in any specific way. Besides, it is not worth while, for this kind of industry can be learned in a few days in the shop or factory where it takes place. This is the kind of work children go into who leave school prematurely. It is of such meager intellectual content that almost any one can do it who can patiently submit to the monotony of its routine day after day. There are probably seven or eight million places in our industries which children are induced to accept, which afford no opportunity for growth and for which the schools can make no specific preparation.

Educational "Faddism." What can and should the schools do? Since eighteen to twenty million children are enrolled in the elementary school and only one to two million in the secondary school, the question is particularly urgent in so far as it pertains to the great majority of the children whose opportunities for formal education are limited. It would require too much space to enumerate all the proposals of what is deemed most vital to the future welfare of the children that have been offered now and again by even thoughtful reformers. To introduce them all into the school curriculum would lead both to chaos and overpressure.

The solution of the problem lies in a subject matter so organized that what is most important will be kept uppermost and the other activities will be duly subordinated, using them as means to promote the central purposes of education. Any activity that is made an end in itself, when it is properly only a means to a higher end, is an educational fad. When any activity of the school is unduly emphasized through the

attitude of the teacher, the principal, or the superintendent, it becomes a fad. On the other hand, no school activity is a fad in and of itself. It depends on how it is used.

The old-time fundamentals still hold their place of first importance in the elementary school. They are still essential to practical usefulness and economic independence. They are needed in all the major life interests. The minimum attainment for all normal children is ability to think in, write in, and speak the English language. This is both an end and a means of further education in and out of school. To accomplish this in a satisfactory way requires for the least capable children not less than six full school years. Some of the states have established a minimum by means of a law requiring a literacy test and an examination in the fundamentals of arithmetic before an employment certificate is issued. It often happens that this is not attained in a six years' course. And yet in many states the law allows children employment certificates before they reach the sixth grade. Unless the child in question is hopelessly retarded, a satisfactory passing of the sixth grade standard in English and ciphering should be the minimum requirement in all the states.

Use of Concrete Things as a Source of Knowledge and Skill is not a school fad. Drawing, paper-cutting, and all sorts of constructive work in connection with the practical arts are sometimes condemned as such by those who have hopelessly practical views with respect to the old-time fundamentals. Book work alone does not suffice even for book work. Everybody knows that what one gets out of a book depends on what he puts in it. Reports of observation of concrete things and experiments with them satisfy

the motive of discovery and of telling about the results. Constructive work in all the grades will provide proper motives for the application of units of number and measure. Even though the interesting purpose of the work should be the making of desirable toys, it will not for that reason be less effective as a means of applying knowledge or promoting skill with tools. The power to read can be utilized in following directions. In the upper grades interest will grow in the construction of practical things and will be applied to the industries of the household.¹

However, the constructive work of the first six grades at least will function as recreation and as a means of discipline in the use of academic knowledge, not for the attainment of special skill in any line of work. According to the Federal Vocational Education Law fourteen is the minimum age set for the beginning of vocational training. It is the special function of the teachers of the elementary school to get the children through the six grades without retardation at the age of 12 to 14, and with the full academic equipment afforded by those grades. This is the part of the elementary school in the vocational training program.²

Ideals of Recreation. Another of the major life interests for the elementary school should be mentioned here because it is also sometimes regarded as unpractical. For the future welfare of all the pupils and especially for the

¹ Eliot: "Certain Defects in American Education and the Remedies for Them." U. S. Bureau of Education, Teachers Leaflet No. 5, 1918, p. 8.

² Lutz: "Wage Earning and Education," The Survey Committee of the Cleveland Foundation, Ohio, 1916.

large number of children whose school experience will end here, it is necessary to foster ideals of recreation to be found chiefly in literature, music, and art. The life program of every man and woman and every child in school must have a place for leisure. It is a part of the work, or rather play, of a school to develop the power to use leisure wisely and for recreation of what is best in man.

Ideals of Achievement. Along with all else that is done, our public schools must cultivate an interest in the community, the state, the nation, and the humanity of all the world, and all along the line arouse a worthy ambition to achieve great things for the common good. Some will be workers in field or factory, others will go into the professions, still others will pursue science or art largely for its own sake. All are important in the greatness of the whole. The elementary school is the common beginning for all.

"Internal Improvement." An act of Congress of the year 1841 provided that the funds derived from the sale of certain public lands be distributed among the several states for internal improvement. A part of this fund was applied in some of the states to the schools. This is an "internal" improvement that should take precedence over all others. Every part of our country has an interest in the educational uplift of every other part. No part of the country however remote can be abandoned to the misfortunes of ignorance and poverty without in some way affecting adversely every other part.

In promoting in each child the power to make an honest living, to be socially helpful and patriotically serviceable, to think justly, and enjoy leisure wisely, we promote the general welfare. The public school is a civic enterprise for

social and material betterment. This is the aim of education in a democracy. In order to know the present state and the promise of a nation, one must look at the condition of the schools as one would look at the face of the clock to tell the time. The statesmanship of the world now thinks in terms of generations and centuries. To refuse to provide for the cost of a proper education of American children is to exploit the future for the present and open the way to national bankruptcy. In these times, some of the nations of the world serve as a warning of the consequences of ignorance and of a perverted educational policy. Ours should present an example of what education should be in a democracy.

The Means of Education. In the following chapters will be discussed the essential means and problems of education. These are: a public sentiment for schools as expressed by a material provision for them; a proper distribution of emphasis; the physical presence of the children; how to keep them in school until the aims of education are satisfied; how to house them; how to keep them well; what to do for the dullards; how to develop character through management; how to make the mind efficient; how to develop the individual through the group; how to organize the school program; how to vitalize school work; how to increase resistance to physical, mental, and moral ills; the home and the community as means of education and as avenues of expression for children at school. They include nothing that could be omitted without detriment to the school, nothing that parents, legislators, teachers, or any others who have the good of the children at heart can ignore.

CHAPTER II

PUBLIC OPINION AND EDUCATIONAL CONTROL

WITHOUT a favorable local sentiment back of it no educational program of any kind will be effective under any scheme of government. Under a democratic régime public opinion shapes the ends and controls the means of education. In order to profit by educational opportunities, a people must want them. The unwilling cannot be taught.

There was a time when a well-distributed educational sentiment existed in this country. It was in the early days when the rural population was relatively large, and rural and village schools were as good as any. Now the strongest sentiment for schools seems to be concentrated in the larger cities. The sentiment is not always intelligent. Sometimes it expresses itself in a vague belief in the mere power of educational machinery that amounts almost to superstition. It may lead sometimes to an unquestioning acceptance of every administrative offering, an uncritical assent to every proposal, and an optimistic indifference to what really takes place in the schools.

But the present danger lies wholly in the opposite direction; in the half-hearted tolerance and stolid indifference to educational means of social uplift to be found in thousands of localities. Inexperienced and poorly paid teachers, in-attendance, dilapidated buildings, unsanitary and demoral-

izing surroundings, and poor equipment bear witness in many states to a total lack of community pride in school affairs. It is for this reason that control has passed and is passing everywhere from the local districts to the state. The method of state control is to provide a portion of the school fund and, under penalty of withdrawing this support, require local boards to adopt certain standards and conditions definitely prescribed in state law.

But state control is proving insufficient in many places. There are in some of the states with central control, communities of old American stock who are so ignorant and so backward in the ways of life that no person with legal qualifications as a teacher, a doctor, or a nurse would consent to live among them. As a consequence they are abandoned to ignorance and lawlessness and intermittent ravages of epidemic disease. Ignorance and the mischief it breeds are so fraught with danger to organized society that no nation or state can afford the neglect of education in any part of its domain.

A Healthy Local Sentiment for Education. A healthy local sentiment would be indicated if a district had adequate ideals of education which it would be willing to carry into effect at any cost out of its own tax fund without any other aid whatever. This is the case to a large extent now in the large centers of population, where the revenue derived from sources outside the district is so small in proportion to the total expenditure that educational interests would probably not be allowed to suffer if that revenue were cut off.

A National Sentiment. A strong national sentiment for public education is a part of American history. The

leaders of public opinion have voiced their endorsement of it as a means to promote good citizenship, public health, and general prosperity. Before the period of the American Revolution education was supported in some of the colonies as an aid to the preservation of religious doctrine. When in the following period political problems became prominent, it was regarded as the very means of preserving the liberties of the people. It now became a matter of public policy. The fathers of the republic believed that the enemies of a free government and the union of the states could be guarded against only by a wide diffusion of knowledge. This was to be the means of checking mob lawlessness and sectional jealousies; of dangerous centralization of power and the abuses of authority. Washington believed that as ours was a government by public opinion, public opinion should be enlightened. Jefferson believed that every local school district should become the educational center of the community and the ultimate unit of the national democracy. Without intelligent citizens who do their own thinking a free republic could not long endure. And they must look to the education of the children who are in their turn to become the sovereign people.

The whole matter of education was so important that it was not deemed wise to leave it to the chance of local community control. As early as in the Massachusetts Constitution of 1780 (Chapter V, sec. 2), education is given a wide scope and as clear a definition as one may wish:

“Wisdom and knowledge, as well as virtue, diffused generally among the body of the people, being necessary for the preservation of their rights and liberties; and as these depend on spreading the opportunities and advantages of education in the various

parts of the country, and among the different orders of people, it shall be the duty of legislatures and magistrates, in all future periods of the Commonwealth, to cherish the interests of literatures and the sciences, and all seminaries of them; especially the University at Cambridge, public schools, and grammar schools in the towns; to encourage private societies and public institutions, by rewards and immunities, for the promotion of agriculture, arts, sciences, commerce, trades, manufactures, and a natural history of the country; to countenance and inculcate the principles of humanity and general benevolence, public and private charity, industry and frugality, honesty and punctuality in their dealings; sincerity and good humor, and all social affections and generous sentiments among the people."

Federal Aid to Schools. Although the federal constitution does not in any way mention education, leaving the matter entirely to the states or the people themselves, the laws of Congress were not silent in the matter. In an ordinance adopted by the Congress of the Confederation in 1785 for the government of the territory northwest of the Ohio River, it was ordained that "the plots of the townships be marked into lots of one mile square, or 640 acres, and numbered 1 to 36; always beginning the succeeding range of lots with the number next to that with which the preceding one concluded"; and that "there shall be reserved lot number 16 of every township, for the maintenance of public schools, within said township." This method of making provision for the support of public schools is given here because it is typical of national legislation since 1803, when Ohio the first state carved out of the Territory was admitted to the Union. Other lots were reserved for future disposition of Congress. The Ordinance of 1787 confirms and extends the principle involved in the former ordinance and

adds, in Article 3: "Religion, morality, and knowledge, being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged."

In Ohio lands were reserved for both schools and churches, the law forbidding only sectarian control of all or any part of the fund. In all the other states the use of the proceeds of state funds of any kind for the support of churches is prohibited. The school lands in Ohio amounted in all to one thirty-sixth of all the land of the state. In 1916 the total proceeds from this source were only \$248,000. The churches received sections number 29 of two grants only. In 1916 the proceeds from this fund were only a little over \$9,000, which was distributed among the churches of eleven counties of the state.

In Ohio, too, the precedent was established to make grants of land for higher education. For this purpose 69,120 acres were reserved, two townships in Athens county, which became the foundation of what is now Ohio University, and one township in Butler county for the present Miami University.

While the total amount of the proceeds from these grants is small and in itself wholly inadequate for the support of the schools, when the grants were made it was believed that the lands then cheap would in time become valuable. Ohio serves as an example of what was done in the case of all the states that were thereafter to be admitted to the Union. By the time of the admission of Arizona and New Mexico in 1911, the last of the territories to enter the Union, the total amount of the grants for the common schools was over eighty million acres. There were six other federal grants

to some or all of the states, derived from the proceeds of the sale of public lands and from other sources, a part or all of which, as the case might be, were added in certain of the states to their permanent resources for school support.¹

The state of Ohio has received altogether 704,488 acres of land for common school purposes. All but a few thousand acres had been sold in 1916, with total receipts of \$4,145,367. In some of the states large permanent school funds are accumulating along with the rising price of unsold lands. Minnesota school lands are rich in mineral deposits, far exceeding values in other states. The following are the totals of permanent funds, including the estimated value of the unsold lands in several of the states:²

Illinois	(round numbers) \$ 34,000,000
Minnesota	204,000,000
South Dakota	33,000,000
Nebraska	29,000,000
Oklahoma	25,000,000
Wyoming	34,000,000
Colorado	49,000,000
New Mexico	41,000,000
Idaho	27,000,000
Washington	72,000,000

Land Grants in Support of Higher Education. With the passage of the Morrill Law, 1862, began a new era in government support of higher education. Before this in all the legislation enacted there was no mention made of a specific subject matter of study, only faith in the general

¹ Cubberley and Elliott: "State and County School Administration." Vol. II, Source Book. The Macmillan Company, New York, 1915, p. 18-108.

² Report U. S. Commissioner of Education, 1917, Vol. II, p. 83.

results of the work of the schools was indicated. With the passage of this law there was authorized a grant of over eleven million acres of public land to the several states of the Union in amounts ranging from 90,000 to 990,000 acres, from the proceeds of which Colleges of Agriculture and Mechanic Arts were to be founded. This has produced a total permanent endowment of only \$14,719,498 for all the states, lands to the value of \$7,778,793 remaining unsold in 1916. In some of the older states the allotted lands were sold for less than a dollar an acre, Rhode Island's strip of 120,000 acres, for instance, netting only \$50,000. The lands in the newer states were sold later when values were higher. The largest portion has fallen to the lot of North Dakota with an endowment from this source of over a million and a quarter and a value of half a million more in lands unsold.¹

Direct Appropriations from the United States Treasury. As the amounts in the permanent endowments of these colleges proved inadequate, additional support was granted in acts supplementary to the Morrill Law by means of annual appropriations from the federal treasury. Two of the acts aid these colleges directly and two supply the funds for the maintenance of an agricultural experiment station in each state.

For many years after the Colleges of Agriculture and Mechanic Arts were established the results, as measured by the development of agriculture throughout the country, were unsatisfactory. The general public sentiment was

¹ Report U. S. Commissioner of Education, 1917, Vol. II, p. 371; Bulletin, 1918, No. 13, U. S. Bureau of Education.

not favorable to colleges for the scientific study of agriculture. It supported rather the traditional colleges of arts and sciences. Free tuition under federal support and the duplication of the courses maintained by the old time colleges however attracted numbers of students, but it was found that a relatively small number of the graduates of the new institutions engaged in agricultural pursuits.

Recent years have brought a great change in public sentiment toward agricultural and technical colleges. Their administrative policy is more in harmony with the specific purpose for which they were created, and they have become pet objects of legislative support in the states themselves. But as a consequence of the long years of misdirected effort due to loosely drawn laws of federal aid to industrial education, when in 1914 the Agricultural Extension Act was passed, the purpose of the appropriations was specifically stated to be for coöperative work between the agricultural colleges of the states and the U. S. Department of Agriculture, this work to "consist of the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges in the several communities, and imparting to such persons information on said subjects through field demonstrations, publications, and otherwise." Another feature of the law is the provision for annual increases in the fund appropriated, for seven years after its going into effect until, in 1921, the total appropriation will be \$4,580,000 annually. The allotment to each state is determined by the proportion the rural population of the state bears to the total rural population of the United States.

A more recent enactment (1917) is equally specific in regard to the object of the legislation. This is the Vocational Education Law. It "provides for coöperation (a) of the federal government with the states in the promotion of vocational education in agriculture and the trades and industries and for coöperation (b) with the states in the preparation of teachers of vocational subjects."

The law authorizes the appropriation of moneys from the Treasury of the United States for vocational education (a¹) in agriculture to aid in paying the salaries of teachers, supervisors, etc., of this subject and (a²) in home economics and industrial subjects. For (a¹) the sums shall be allotted to the states in the proportion which their rural population bears to the rural population of the United States and for (a²) in the proportion which the urban population bears to the total urban population of the United States. For the purpose of preparing teachers of the subjects under (a) the appropriations are as given under (b) in Chart III. These sums are to be allotted to the states

CHART III

<i>Year</i>	<i>a</i>		<i>b</i>
	<i>a</i> ¹	<i>a</i> ²	
1917-18	500,000	500,000	500,000
1918-19	750,000	750,000	700,000
1919-20	1,000,000	1,000,000	900,000
1920-21	1,250,000	1,250,000	1,000,000
1921-22	1,500,000	1,500,000	annually
1922-23	1,750,000	1,750,000	
1923-24	2,000,000	2,000,000	
1924-25	2,500,000	2,500,000	
1925-26	3,000,000	3,000,000	
maximum continued annually			

in the proportion which the population in each bears to the total population of the United States.¹

Among the conditions attaching to the appropriations are the following: for each dollar of federal money expended for such salaries the state or local community or both shall expend a sum in equal amount; the money can be applied only to schools under public supervision and control; to the purpose of a training only that shall fit for useful employment; the schools shall be less than college grade and meet the needs of persons of over fourteen years of age; the agricultural schools shall provide for directed or supervised practice for at least six months per year; the other vocational schools giving instruction to persons who have not entered upon employment shall require that at least half of the time of such instruction shall be given to practical work on a useful or productive basis, such instruction to be for nine months of the year and not less than thirty hours a week.

At least one third of the sum appropriated for salaries of teachers in the trade, home economics, and industrial schools, shall, if expended, be applied to part-time schools or classes for workers over 14 years of age and under 18 years, who have entered upon employment; and the subjects taught in such a school may mean any subject given to enlarge civic and vocational intelligence. These schools shall provide not less than 144 hours of classroom instruction per year.

Evening industrial schools shall fix the age of sixteen as

¹ Bulletin No. 25, 1917. "What is the Smith-Hughes Bill?" National Society for the Promotion of Industrial Education, New York.

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a minimum for entrance. Instruction shall be supplemental to daily employment.

Not more than 60 per cent nor less than 20 per cent appropriated for the training of teachers of vocational subjects shall be for any one of the following purposes:

- a. For the preparation of teachers, supervisors, or directors of agricultural subjects, or
- b. For the preparation of teachers of trade and industrial subjects, or
- c. For the preparation of teachers of home economics subjects.

Details such as the minimum requirements for equipment and maintenance and for the qualification of teachers are determined by the authority of the state board of vocational education with the approval of the federal board. Courses of study and methods of instruction are subject to the approval of the state board.

The different kinds of schools or classes provided for in the plans of the Federal Board are: (a) Full Time and (b) Part Time schools or classes. Under the first come those with 50 per cent of the time devoted to practical work, 30–35 per cent to related subjects, and 15–20 per cent to English, civics, hygiene, and history; and Coöperative schools or classes, with students alternating at stated intervals between school and shop, with vocational teachers in full charge of the students all the time they are working in the shops. Under the second head come Trade Extension schools or classes aiming to supplement daily work and extend knowledge of trade entered upon; Evening schools or classes with the same purpose as the preceding; Trade Preparatory schools or classes aiming to prepare for an industrial pursuit other than the one engaged in; and Continuation schools or

classes aiming to extend and supplement general education and enlarge civic and vocational intelligence.

In the brief history of public support of educational work here given, it is clear that the drift of opinion at first vague and general has now set strongly toward definite goals of school work in fields long neglected or believed to be beside the aim or beyond the reach of the school. In the first enactment, of 1787, provision was made for education "as necessary to good government and the happiness of mankind." This holds true to-day as much as ever before. But nearly a hundred years passed before the first steps were taken to provide for specific training in an industry which engaged the attention of the great majority of the people. It required a quarter of a century more before actual results, such as one can suppose the Morrill Law aimed at, began to appear in improved farms and more abundant crops. With the Agricultural Extension Law of 1914 begins the period of definite aims and more strict conditions imposed to secure more immediate practical results. In the last enactment, the work to be supported by federal aim is defined as to subject-matter, the minimum age to begin it, the amount of practice that shall be combined with theory, with various other conditions and safeguards. Public opinion as reflected in the laws of Congress at first emphasized education as of general disciplinary and political value. Now, apparently with assurance born of satisfactory experience, it seeks to apply educational methods to the fields of industry.

Federal Aid for Education as Proposed in a new bill as yet in tentative form provides for a Secretary of Education as the head of an executive department and with a seat in the President's

cabinet, the appropriation of money for the conduct of said department, and for federal aid to the states in promotion of education. It was tentatively drawn by a committee of the National Educational Association Commission on the National Emergency in Education in coöperation with the National Child Labor Committee. It provides for an annual appropriation of \$100,000,000, to be divided among the states as follows:¹

One twentieth for the purpose of coöperating with the states in instructing illiterates in the common school branches, in citizenship and for definite vocations.

One twentieth for Americanizing immigrants through instruction in the English language, training in the duties of citizenship, and development of respect for law and order and an understanding of our civic and social institutions.

Five tenths for equalizing opportunities for education by improving public elementary and high schools through the lengthening of the school term where it is now too brief, through standardizing, grading and supervising, through developing rural schools and providing thorough instruction.

Three tenths for the promotion of physical education and recreation, medical examination of children of school age, employment of school nurses and instruction of the people in the principles of health and sanitation.

One tenth for training teachers, particularly for the rural schools.

Other Sources of Support. Besides the permanent fund and direct appropriations from the federal treasury now available, there are two other sources from which all public schools derive support. Each state levies a tax for public schools. In the state of Ohio, for instance, a fixed rate of .055 of a mill is levied on the taxable property for this purpose.² Besides, there is a local tax levy which in

¹ "The Child Labor Bulletin," May, 1918, pp. 55-56.

² "School Laws of the State of Ohio," 1915, pp. 150-151.

large centers of population brings in by far the largest sum for school purposes. To illustrate, the amounts derived from the three sources of income in the school district of Cincinnati for 1917 were: ¹

From permanent fund	\$ 5,000.00
State taxes	160,000.00
Local taxes	2,850,526.84

That is, the district of Cincinnati received only .175+ per cent from the permanent fund and 5.6+ per cent from the state fund, 94.225 per cent being derived from local sources.

The per cent of the total school income from various sources for the whole United States in 1916 was as follows:

	Per cent
Permanent fund	2.79
State taxes	15.03
Local taxes	77.00
Other sources	5.18

In some districts the value of taxable property is so low that it is not possible to secure sufficient revenue for school purposes within the rate limit allowed by law. Under such circumstances state aid is especially invoked as a means of "equalizing educational opportunities."

¹ "Eighty-seventh Annual Report Cincinnati Public Schools," 1917, p. 19.

CHAPTER III

DISTRIBUTION OF EMPHASIS

THE strength of local school sentiment is usually to be measured by the amount the people of a district are willing to tax themselves for school purposes. The genuineness and intelligence of the sentiment, however, is to be gauged by a wise and proper distribution of expenses. That is, good schools depend not only on how much the people are willing to pay for them but also on what they emphasize as of essential importance in the expense account.

In regard to this, the provisions of the Vocational Education Law are significant. The Congress of the United States coöperates with the States in this extensive educational program by appropriating money from the Treasury to pay the salaries of teachers of vocational subjects and the salaries of those who prepare the teachers for this work. No part of the fund can be diverted to any other purpose. This implies the view that to insure the success of the program the main features of the educational process must first of all be supported. It is well known that these essentials of education have not always been jealously guarded. The administration of the public schools has aroused interest sometimes chiefly because of extensive building programs with land to acquire, contracts to let, and labor to employ, or because of the equipment needed by way of books, furniture, and apparatus. Too often it has been forgotten that

these material provisions, while important, cannot have educational value without capable teachers.

Again, it has proved an unwise economy to pay well administrative and managerial heads at the disparagement of the rank and file of the teachers. The year of the entrance of the United States into the Great War it was estimated that 50,000 schools of the country were without teachers. This occasioned no surprise among those who know the salaries of the men and women who teach in the elementary schools in country and city districts. The pay of rural teachers averages less than \$300 per annum.¹

"Why is there a shortage of teachers? A sufficient answer may be found in the following data regarding salaries of elementary teachers, compiled for 930 villages of less than 2,500 population scattered throughout the country:

"Of these teachers 64.69 per cent receive less than \$600 a year and 33.76 per cent less than \$500 a year. Salaries in the purely rural schools are much less, and in the city schools not very much greater, though great enough to draw heavily upon the supply of rural-school teachers.

"Many of the best teachers are taking up other work paying twice as much. Without competent teachers the American public school is doomed to failure; without an efficient public school America will fail as teacher of democracy to the peoples of the world."²

The Total Cost of Education in the United States for the Year 1916 is given below. The figures are taken from the latest published report of the Commissioner of Education.

¹ Foght: "The American Rural School," The Macmillan Company, New York, 1910. See Chapter VI, Salaries and Tenure of Rural Teachers, pp. 92-115.

² "School Life," Vol. I, no. 8, p. 8. Published by U. S. Bureau of Education, Washington, D. C.

CHART IV

Classification	Enrollment	Per capita cost	Total cost
Public schools			
Elementary	18,895,626	\$29.55	\$558,391,364
High	1,456,061	56.54	82,325,689
All schools including private schools, colleges, universities, professional schools, evening schools, etc., etc.....	23,299,029	39.37	914,804,171 ¹

Less than 8 per cent of the number of children who go to the elementary school attend the high school, but the per capita cost of high school education is nearly twice that of the elementary school and much higher than the average per capita cost of all schools. The high school is provided with finer buildings and more and better paid teachers as a rule — is this a wise distribution of the available funds?

Expenses of Special Schools. In the same report we find that the cost of special schools is as follows:

	Enrollment	Per capita cost	Total cost
Schools for the deaf.....	14,733	\$300.80	\$4,431,686
Schools for the blind.....	5,155	498.34	2,568,943
Schools for the feeble-minded.....	37,630	555.42	20,900,455

The high cost of special schools is to be regarded as a heavy penalty inflicted upon the state for the carelessness and neglect to which a large number of the cases of deafness and blindness are due and the unwise economy that does not provide schools for the segregation of the feeble-minded.

¹ Compare the total estimated expenditure in the United States for
Tobacco (1912) \$1,100,000,000
Motoring (1915) 1,800,000,000
Alcoholic beverages (average for '11, '12, '13) 1,630,187,252

Distribution of Expenses in State and City Systems.

The per cent of expenditure in the United States as a whole for the same year was as follows for:

Sites, buildings, etc.	16.15
Salaries	56.93
All other purposes	26.92 ¹

The largest part of the expense of schools is and of course ought to be for the salaries of teachers. Unless there are too many pupils per teacher, it is one of the signs of good administration when this item is relatively large, other provisions made, such as housing, equipment, etc., being satisfactory. An idea of the meaning of "all other purposes" may be gained by a glance at the expense account of a large city. The following items were compiled from the financial program of the city of Cincinnati for the year 1917:

	Per cent
Contingencies	0.64
Compulsory Education	
Attendance department	
Child labor	0.65
Auxiliary Service	
Lunch rooms, playgrounds, etc.	1.44
Superintendence	
Institutes, Commencement, Teachers' pensions, etc.	1.71
General Administration	
School census, Rents, Fire insurance, Insurance and Sinking Fund for Bonded Debt, etc.....	11.77

¹ Report of the Commissioner of Education for the year ending June, 1917. Washington, D. C.

Business Management

School plant operation, maintenance, cleaning,

etc. 20.35

Salaries for Teachers 63.40¹

States Compared. In the following table may be seen how any one of the states compares with others and with the United States as a whole in the matter of expense per pupil and the proportion of the expense devoted to teachers' salaries:

CHART V²

1916 U. S.	A \$23.87		B \$41.72		C 56.93%		D 32.7	
State	Rank		Rank		Rank		Rank	
Ala.	6.77	45	15.49	42	74.79	3	46.5	43
Ariz.	42.60	4	77.85	3	47.12	47	33.1	25
Ark.	8.28	42	14.63	43	80.08	1	41.9	36
Cal.	56.21	2	78.17	2	55.14	32	31.1	21
Colo.	33.46	16	55.90	12	61.78	16	28.0	14
Conn.	33.94	14	53.09	14	48.81	44	36.5	29
Del.			24.06	37	71.99	5	42.6	38
Fla.	14.89	35	26.44	36	54.65	36	34.5	27
Ga.	6.96	44	13.77	44	72.76	4	44.3	39
Idaho	36.55	9	63.56	7	55.01	33	27.3	13
Ill.	29.07	24	45.16	25	54.77	35	32.5	24
Ind.	34.13	63	51.77	18	48.57	45	28.7	17
Iowa	35.60	11	52.15	17	57.10	28	19.3	4

¹ Budget for 1917, Eighty-seventh Annual Report, Cincinnati Public Schools for the year ending August 31, 1916.

² Compiled from data given in Report of U. S. Com. of Edu., Vol. II, 1917. A. Expenditure per capita of school population 5-18. B. Expenditure per capita of average attendance. C. Proportion or per cent of the whole expense for teachers' salaries. D. Average number of pupils enrolled per teacher with rank in no. of teachers. The figures at the top mean the average for the U. S. as a whole.

1916 U. S.	A \$23.87	B \$41.72	C 56.93%	D 32.7
State	Rank	Rank	Rank	Rank
Kan.	31.79 20	49.40 23	54.82 34	26.4 11
Ky.	11.93 38	23.56 38	60.52 21	41.7 35
La.	9.62 41	23.36 39	64.64 12	42.0 37
Me.	22.62 29	34.31 30	58.77 25	21.4 6
Md.	14.65 36	30.93 32	69.39 8	34.5 27
Mass.	32.94 18	53.75 13	58.46 26	34.5 27
Mich.	32.03 19	47.66 24	52.77 39	29.5 18
Minn.	33.87 15	57.22 11	53.38 37	27.0 12
Miss. ('13) ..	4.53 47	9.30 47	77.45 2	44.9 41
Mo.	19.97 31	33.65 31	62.60 15	35.7 28
Mont.	65.71 1	86.36 1	48.28 46	21.7 7
Nebr.	31.37 21	50.06 22	60.53 20	23.2 10
Nev.	43.73 3	76.26 4	66.51 11	20.1 5
N. H.	21.89 30	39.44 28	59.10 24	21.8 8
N. J.	36.92 7	61.89 8	50.23 42	32.3 22
N. Mex.	16.76 32	38.79 29	59.18 23	39.6 33
N. Y.	29.43 23	52.15 17	69.72 7	30.3 19
N. C.	7.11 43	12.31 46	69.08 9	44.6 40
N. Dak. ('15)	36.43 10	69.62 5	50.55 41	18.7 1
Ohio	33.37 17	52.88 15	49.13 43	28.4 16
Okla.	13.70 37	28.47 35	70.60 6	40.5 34
Oreg.	36.61 8	52.59 16	59.79 22	23.0 9
Pa.	29.04 25	50.88 19	44.25 48	37.5 32
R. I.	25.35 27	50.32 21	52.89 38	32.4 23
S. C.	6.96 44	12.80 45	68.60 10	49.8 44
S. Dak.	29.72 22	61.26 9	56.19 30	19.0 3
Tenn.	9.87 40	15.76 41	63.33 13	47.2 42
Texas	15.19 34	30.50 33	61.70 17	37.1 31
Utah	35.51 12	50.84 20	52.76 40	33.8 26
Vt.	27.17 26	43.91 27	55.51 31	21.8 8
Va.	10.97 39	21.53 40	61.41 19	37.0 30
Wash.	38.91 5	68.33 6	61.58 18	26.4 11
W. Va.	16.10 33	28.85 34	58.41 27	30.4 20
Wis.	24.30 28	44.90 26	56.48 29	28.1 15
Wyo.	38.81 6	57.65 10	63.15 14	18.8 2

According to the figures in column A of Chart V, Montana, for instance, had an expense of \$65.71 *per capita of school population*, which is 9.7 times \$6.77, that of Alabama, and nearly twice as much as that of Colorado, Connecticut, Minnesota, or Ohio.

According to column B, Montana paid about 5.5 times as much *per capita of average attendance*, which indicates that Montana had more of her school population in attendance than Alabama.

Number of Pupils per Teacher. It may seem surprising to find states low in columns A and B yet showing a larger proportion of expense devoted to the payment of salaries of teachers in column C. Arkansas is 42nd and 43rd in A and B respectively but first in C, while Arizona is 4th and 3rd in A and B and 47th in C. That a large proportion of the expense goes to teachers' salaries is in itself a good sign. However, column D will show that Arkansas ranks low in the number of teachers compared with the number of pupils in the schools; it will be seen that some of the states that rank high in C use comparatively few teachers. Tennessee has an average of 47.2 pupils per teacher, South Carolina 49.8, which is more than two and a half times the number of pupils per teacher than in the states of Wyoming and Iowa. As the better graded city schools usually can have a larger enrollment per teacher, states with a large urban population would naturally have a higher average than rural states. However, some of the states with a high average per teacher are also rural rather than urban states.

The proportion of the whole expense for teachers' salaries will be lower in some of the states for good reasons, for it

may be due to better buildings and equipment, to better care, to a larger outlay for auxiliaries, such as lunch rooms, playgrounds, social center work, medical inspection, etc. The principal elements in any school system are the children, the teachers, and the buildings. In the first place of consideration are the children for whom all the other elements are to be exclusively devoted. It is for their sake that teachers must be well paid and that buildings must be inviting, comfortable, and sanitary. In this respect there is frequently a great difference between the states; some of them have a value of buildings and equipment exceeding one hundred dollars per child, while certain other states have an investment of only eight, six, and as low as four dollars per child.

Financial Return to the Teacher. If we ask how the states differ in the financial return to the teacher per pupil in average attendance, the answer may be derived from columns B and C, Chart V. For example, in Mississippi where with the figures for 1913, the only ones we have, the per capita expense per pupil in average attendance is \$9.30, taking 77.45 per cent of this we have a total return to the teacher from each pupil, of \$7.20. In Pennsylvania, which is 19th for the amount expended per pupil in average attendance, the return to the teacher is 44.25 per cent of \$50.88, or \$22.50 per pupil in average attendance. Comparing Arkansas and Montana we have 11.71 and 41.69 as returns to the teachers of the amount expended per pupil in average attendance in the states respectively. Making due allowance for differences in conditions, the teachers of Arkansas and Mississippi are not as well paid per pupil as the teachers of Pennsylvania and Montana.

Distribution of Expense in Cities. In the following will appear the distribution of expense averaged for 18 cities of moderate size:

CHART VI

CLASSIFIED EXPENDITURES PER CHILD IN AVERAGE ATTENDANCE AVERAGED FOR 18 CITIES OF FROM 250,000 TO 750,000 INHABITANTS, 1914¹

1. Office of board and other business offices	\$ 1.15
2. Superintendent's office	.75
3. Salaries and expenses of supervisors	.70
4. Salaries and expenses of principals	3.35
5. Salaries of teachers	31.65
6. Stationery, supplies and other instruction expenses	1.56
7. Wages of janitors and other employees	3.14
8. Fuel	1.15
9. Maintenance—repairs, replacement of equipment, etc...	.64

It may be expected that there would naturally be considerable variation in certain of the items of expense in different cities. On account of climate there would be a difference in the amount of fuel consumed and its cheapness would depend upon nearness to the source of supply. It is true, too, that item 9 would vary for different years in the same city. Living expenses would also have some effect on the outlay for salaries of principals and teachers.

Total Expense per Pupil. The total expense per pupil in average attendance in the 18 cities is \$43.09, and that for the salaries of teachers is \$31.65, which is 71.1 per cent of the whole expense. In the following Chart VII, these same

¹ From figures presented in Clark: "Financing the Public Schools," Cleveland, Ohio, 1915. The Survey Committee of the Cleveland Foundation, p. 42.

18 cities are given and compared in regard to the amount paid in salaries of teachers per pupil in average attendance, the proportion that this expense bears to the whole, and the average number of pupils per teacher in each of the cities.

CHART VII

SALARIES OF TEACHERS PER PUPIL IN AVERAGE ATTENDANCE (A), THE PROPORTION OF THIS TO THE WHOLE EXPENSE (B), AND THE NUMBER OF PUPILS PER TEACHER (C), IN 18 CITIES OF FROM 250,000 TO 750,000 INHABITANTS.¹

	A	B	C	
	Salaries of Teachers per pupil	Per cent of Whole Expense	Elementary Schools and Kindergartens Rank	High Schools Rank
Los Angeles	\$45.44	72.6	26.8 1	18.1 1
Seattle	44.96	74.8	31.7 9	19.8 10
Washington	36.97	75.6	28.6 3	18.3 2
Boston	36.54	67.9	36.4 15	26.9 17
Minneapolis	34.55	68.9	30.8 6	21.6 13
San Francisco	34.09	75.5	35.6 14	27.1 18
Newark	33.96	72.0	34.5 12	18.8 5
Kansas City	32.47	68.6	30.2 5	19.1 6
Buffalo	31.95	66.2	28.0 2	22.5 14
Pittsburgh	31.84	57.4	31.0 8	18.6 4
Detroit	30.09	69.1	33.6 11	19.6 9
St. Louis	30.03	60.5	38.3 17	19.2 8
Cleveland	29.44	67.3	37.4 16	20.2 11
Jersey City	28.26	70.0	38.4 18	23.3 16
Indianapolis	27.74	66.0	30.9 7	22.9 15
Milwaukee	27.38	74.4	35.1 13	18.6 3
New Orleans	24.64	75.2	29.4 4	20.2+12
Baltimore	22.65	72.8	33.1 10	19.1 7

¹ Compiled from figures given in Clark: "Financing the Public Schools," op. cit., pp. 42-52.

Crowding in the Elementary School. When the average number of pupils per teacher is high as in the elementary schools of some of the cities, it is probable that many classes are much too large for satisfactory results. The fact that children are young and small gives no warrant for crowding so many more of them into a room nor for taxing a teacher with so many more of them. The younger they are, the more they need the care of the teacher. The educational psychology of the elementary school child is at least as difficult as for the child of high school age. The older children can usually be referred to books and printed matter; the younger the child the more its work must be planned for out-of-hand and subject matter adapted to individual need. Besides, the lower grades represent the age of the greatest frequency of the school diseases, when children have not yet outgrown the communistic habits through which infection takes place. This would suggest that their number should be relatively small in the lower grade classes. In the light of modern pedagogy, crowding the children in the lower classes rests on several fallacies: that because they are small more of them can be taught in the same classroom, that because they are young and do not know much they are easily taught and more of them can be taught at the same time, and that because they are little and weak more of them can be made to submit to discipline at the same time.

Method of Distribution of School Funds. School funds are usually distributed in proportion to the number of youth of legal school age. The state of Ohio distributes the school fund on this basis in accordance with the results reported by local enumerators. Apart from the danger of

padded census reports of the school population, it is commonly believed that the only correct and just method of distribution is on the basis of the number of teachers employed and the aggregate number of days of attendance of the school children. The state should not pay for the schooling of that part of the school population which in one way or another evades the compulsory attendance laws. It should also recognize that an adequate number of teachers will produce better results than a smaller number teaching under crowded conditions to save on the item of salaries.

CHAPTER IV

CONSERVATION OF CHILDHOOD — CHILD LABOR

To conserve the physical and mental energies of the children for adult life is the most important national economy. As this is a nation's method of self-preservation, it supersedes all other interests. The enlightened motto of twentieth century civilization is *Women and children first*. A nation guarantees its future when it gives the child a chance for the fullness of life before and after birth. For this reason it has become the policy of the state: — to limit the hours of employment for adult women, shield them from unnecessary hardships, and make the conditions under which they work hygienic and the surroundings agreeable; to keep the infant in the mother's care as long as may be necessary; and to forbid the employment of child labor.

The Meaning of Childhood. There was a time when a child was regarded as an adult in miniature. According to its station in life it was a little aristocrat or a little worker. That childhood has a characteristic meaning and a natural development of its own is a view only about a hundred and fifty years old and not yet universally accepted. The young of only the lower orders of life are at once equipped with the powers of the adult. A young fish, for instance, is at birth about as well adapted to the environment as the

adult. It can eat without help and by swimming away escape being eaten, and it is at once suited to the changing temperature of the medium in which it lives. In the higher order of animals there is a period of infancy, or helplessness, during which the instincts for survival are supplemented by the parents' instinct of protection.

In the case of man, life is more complex; there is more to learn; there are more adjustments to be made both in number and in variety, both to the natural and the social surroundings of mature life. The human infant requires more than a year to learn to do what the young animal can do almost at once. In the case of both, the nervous mechanism which receives impressions and the motor nerves of response are probably all complete; but in the animal there is a close connection between the two systems at birth, so close that the responses have a relatively fixed relation to the stimuli and the young animal is at once the creature of the habits of its ancestry. In the child there are immature connecting nerves between the two systems just mentioned. These grow at best slowly and gradually through the activity of the other two systems upon a relatively wide range of experience. By its inherited tendencies the energies of the young child are all absorbed in gaining sensory impressions and in ceaseless motor activity.

Neural Basis of Work and Play. From this point of view the difference between work and play in the case of the undeveloped child is this: as work is exercise in a narrowly limited field of sensory impressions and motor responses and subjected to much repetition, it gives the neural basis of the mental life a limited development; as play engages the child in a great variety of activities, passing

rapidly from one to another as its meager powers of mental and physical endurance dictate, it makes for a broad and general development. The greater energy commanded in play than in work also makes for a more complete development of the fibers involved. Play in games requires alert adjustment to the unpredictable and unexpected; the routine of work is monotonous and dull. The varied and violent activity of the limbs in play is needed for the growth and proper functioning of the organs of the trunk. It is true of children as of adults that if a set of nerves is repeatedly stimulated the feeling of weariness that results will vanish upon the stimulation of another set at the same time. Soldiers weary with the march revive on hearing the band play. The child when young wearies of one kind of play activity in a short time and shifts to others in rapid succession until the body as a whole becomes fatigued and sleep brings about a new store of energy.

Labor robs the child of its natural right to play for physical and mental growth. It is a national economy to devote the period of childhood to school with its variety of social, mental, and play interests, and the period of maturity to productive work. To do otherwise is to work contrary to the natural laws of development and this cannot be done without incurring the severe penalty of nature. But this usually falls hardest on the innocent.

Immediate and Remote Effects of Child Labor. Under the stress of war, England recruited about 600,000 agricultural and factory workers from among the school children. The results were unsatisfactory and there was a quick reaction to the mistaken policy. One of the medical investigators employed by the British Health of Munition

Workers' Committee ¹ reported, "Of the boys it may be said for the most part that they are so spiritless, so dull, so dead in look, so woe-begone and attacked with weariness to a dulling of their spirits as to compel attention." He also gave as evidence of fatigue, muscular pains, foot ache, restlessness, sleepiness, a dry skin, a vacant expression, and a skin rash. A social worker reported, "The boys are drawing on their strength; they fall asleep in the trains and trams, and often travel on beyond their stations." At the same time the effects reported were attributed to a large extent to the conditions of employment and to conditions outside the workshop. In its summary of conclusions we read: "The committee regards it as extremely important that the nation, at a time when war is destroying so much of its manhood, should guard the rising generation not only against immediate break-down, but also against the imposition of strains which may stunt future growth and development. Conditions outside the factories contribute to the fatigue of juvenile workers, and it has to be remembered that boys and girls need sufficient reserve energy not only for the maintenance of health, but also for growth. Even under normal conditions there is some danger of juvenile employment adversely affecting physique, and this danger is materially increased by the present conditions of employment."

As a result of its war-time experience the English Parliament has voted a largely increased appropriation in support of the schools, and the Education Bill which has just passed the House of Commons is described as the most

¹ Bulletin U. S. Bureau of Labor Statistics, whole No. 223, 1917, Juvenile Employment, pp. 98-100.

far-reaching measure for child conservation that has yet been taken in any of the warring countries.

It is believed that there are effects of child labor which will not at once be apparent. In so far as work leads to a specialized development of the nerve fibers, as suggested before, certain parts of the association structures remain undeveloped. This, it is held by high authority, is likely to become the seat of mental disease. It is true that this may be mild in its effects; that is, it may escape the notice of the outside world, but in all its mildness, it may be sufficient to make a man his own worst enemy throughout life. It may lead to a sort of chronic fatigue. Child labor reproduces itself; the child who has grown up in it will likely become the indolent adult who exacts support from his own child.

As child labor makes for inefficiency in the adult, so it lowers his earning capacity. This should tend to hold back the manufacturer who promotes child labor. The cheap child laborer of to-day makes the poor buyer of to-morrow. Thus he who employs child labor adds a part to the constituency of the impecunious who make business dull.

Child Labor Laws. All the states in the Union have laws on their statute books regulating child labor. Public sentiment has been strong enough to bring this to pass, but it has not been strong enough locally to bring about a just enforcement of these laws. Local influences have tended to nullify them; at least a large proportion of the prosecutions have resulted in acquittals. A remedy has been sought in a national law. The chief difficulty in the way of national legislation has been constitutional. Primarily the function of regulating conditions within its borders be-

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longs to the state. However, in 1917 a child labor law was passed by the Congress of the United States to go into effect September of the same year. The constitutionality of the law was supposed to rest in the power of Congress to regulate commerce between the states. The law as passed prohibits interstate commerce in goods upon which children

(a) under 14 working in mills, factories, canneries, or workshops

Or

(b) under 16 working in mines or quarries

Or

(c) between 14 and 16 working more than eight hours a day in factories, etc.

Or

(d) between 14 and 16 working after 7 P. M. or before 6 A. M.

have been employed or permitted to work within thirty days prior to the removal of such goods for shipment. Its enforcement is in the hands of the authorities of the federal courts. The employer pays the penalty. The law was declared unconstitutional in 1918 by the Supreme Court of the United States.

Although this law cannot now be enforced, it is worth while to know the standards which are recognized therein because they are being retained in the new bills that have been introduced. The Senate of the United States has approved by a vote of 50 to 12 an amendment to the revenue bill of 1918 which avoids the constitutional objections of the former law by making the taxing power of the federal government the weapon against child labor. This, it is held, is subject to no limitations except those distinctly named in the constitution. The bill as already passed by the Senate provides that those who employ child labor shall

pay for each taxable year, in addition to all other taxes imposed by law, an excise tax equivalent to 10 per cent of the entire net profits received or accrued for such year from the sale or disposition of the products of child labor. It follows the statutory definitions of child labor as found in the former law.

Children Not Protected. The provisions of the former law affected only about 150,000 children. There are more than a million and a half working children whose status will not be changed by any federal legislation now proposed, because they are not employed in occupations the law proscribes. According to the U. S. Census of Occupations, 1910, there were employed in agriculture alone 1,430,996 children between 10 and 15 years of age. Much remains for state legislation for children in the following occupations:

Messengers, office and bundle boys	56,799
Newsboys and newsgirls	20,450
Clerks	20,112
Laundry workers	12,045
Milliners, dressmakers, apprentices	8,418
Servants	89,508

Twenty-eight states do not regulate street trades and twenty have poor regulation. Twenty-two states need night messenger laws. Twenty-seven states permit children under 16 to work in stores and local establishments more than eight hours a day.¹

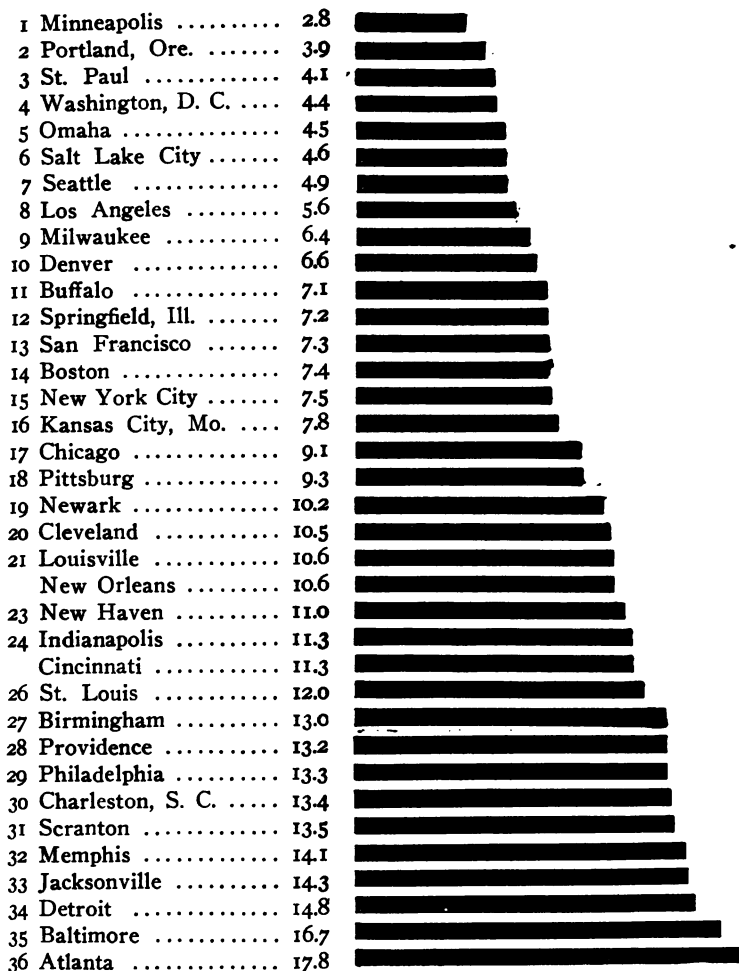
Childhood is the never-returning golden age for joy in play, in school work and comradeship, for books and stories,

¹ Taylor, Florence I.: "The Child Labor Movement of To-day," *School and Society*, Vol. V, No. 106, pp. 10-14.

CHART VIIa

CHILD LABOR IN 36 AMERICAN CITIES ¹

Percentage of children from 10 to 15 years of age, inclusive, "gainfully employed" in industry, 1910.



¹ *Reed College Record*, No. 27, Dec., 1917, Social Service Series, No. 4,

for excursions in the free, sunny fields, among the trees and flowers, to gather memories that shall sweeten the long years of adult life. These years of happiness are denied many children, it may be, because of the extreme poverty or cupidity or indolence of a parent who was perhaps himself a child worker, or because of a rigid home training in which the lessons of industry and thrift are early enforced as a matter of principle. Sometimes it is a child's own wish to be productively employed because the pittance earned will be of some help at home or because of a desire of certain free ideas with the proceeds of work.

The Vicious Circle. Extreme poverty and ignorance are among the chief causes of child labor at its worst; and child labor is in turn the cause of poverty and ignorance. And strange as it may seem they operate in the country as well as in the congested districts of the cities. We are prone to think that in an agricultural land like ours, where the soil is fertile and nature even unaided is bountiful, everybody is provided with the ordinary means of a contented and happy existence. Recent investigations have proved that this is not the case.¹ It may not be generally known that tenants constitute the largest class of people living in the rural districts. If we may judge by conditions as reported in one of the states the life of the tenant and his children is usually a dreary round of unremittent toil, year in, year out, from generation to generation. Very few, we pp. 16-17. "Gainfully employed"—according to definition of U. S. Census Bureau—"parents working at home without pay and children spending more than half their time at school are not classified as gainfully employed."

¹Gibbons, C. E.: "Farm Children in Oklahoma," *The Child Labor Bulletin*, May, 1918, pp. 32-53.

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are told, have vegetable gardens and they do not raise their own supply of meat, milk, and butter. Their fare is limited to a few staple products and many are at times on the border of starvation. Their fiscal year is divided into two parts: the time to borrow and the time to pay. The first continues throughout the year, and the second comes at the end of the harvest. They sell all their crop, not even keeping seed for the next planting. They buy that when they need it, going into debt for it as for everything else. At the end of the year they are often still in debt — in greater debt than before.

In many instances the landlord furnishes the tenant with only a shack for a house, with no outbuildings for a toilet or a barn to store crops and not even for a place to keep seed until it is needed. The term of the lease is usually for one year and as a rule tenants move annually. "They are prepared to do this with little trouble for they own nothing but what they can put into a wagon and drive off with."

To get along as well as he does the tenant farmer requires the labor of his children. How could he hope to make both ends meet without it?

To this situation the city parallel is the home worker in the tenement house.¹ This is a more familiar story — of the mother who cards buttons at 2 cents a gross, three gross an hour, or "finishes" clothing at 8 or 9 cents an hour, or makes pajama frogs at 5 cents a dozen, with the help of children of school age or under. In an investigation made in 1912 it was found that the artificial flower industry

¹ "Child Work in the Home," National Child Labor Committee, New York, 1918.

of New York City was carried on mostly in tenements and that more than half the workers were children under 16; ten per cent were under 8. As one mother said, "Making flowers at home is poor work, especially if you have only a few children to help you." In most states there is no way to reach this evil except through the compulsory school attendance laws. But even when children go to school they do home work before and after school hours. They come to school tired out, and then sitting still they can hardly keep awake and pay attention. They are absent in spite of their physical presence and they retard the work of the class.

Remedial Legislation. Child labor, whether on the home farm, in the tenement, or the factory makes a low level of efficiency a habit which the child as he grows up will find it almost impossible to break. It will become the social heritage of his children and their children like an hereditary family plague. To break the vicious circle legislative interference is necessary. Regulative laws against child labor in the home cannot be enforced. Legislative action cannot abolish poverty. But it can promote the means of education and check ignorance with its attendant evils of poverty, improvidence, and bad household management. This is where the Federal Vocational Education Law has its place for ultimate social betterment. It provides for plans for full time schools or classes to fit children not less than fourteen years old for entrance into some trade or industry; for part time schools or classes in which children of not less than fourteen years can learn while they earn, and by learning about their chosen trade or industry or one they wish to enter they can increase their earning capacity. Furthermore, it provides for continuation

schools where children of the same minimum age can extend their general education along the lines of civic and vocational intelligence. It provides also for evening industrial schools or classes where children of not less than sixteen years who are employed during the day can increase their industrial efficiency and enlarge their earning power.

Work of Children under Fourteen. The law just referred to does not provide for children under fourteen. It does not recognize the need or the propriety of specific industrial training for younger children. It is generally regarded inadvisable for a child to decide definitely what trade or industry to engage in before the age of fourteen. It is believed, however, that as the constructive instinct manifests itself in children of all ages opportunities should be provided to give it means of expression. This is desirable, not only to foster this useful interest for its own sake, but also on the principle that all wholesome child activities should be encouraged to the exclusion through lack of time and opportunity of those that are unfavorable.

This is especially true for children of about the age of 12 to 14 years, a period which, as there is good reason to believe from statistics of juvenile delinquency, is one of unstable moral equilibrium. In many school systems a time is set apart for pupils to engage in constructive work beginning with the fifth grade. From the standpoint of artisanship the work is not to be taken seriously, but the children themselves are always eager to begin work at their simple projects. They do not always have the patience to finish what they begin, and if they see it through to the end, the product is usually very imperfect. But they get some practice in the use of tools and their craving for con-

struction is satisfied. More than this, where the equipment of appliances is sufficient to cover a considerable range of the practical arts, they can try themselves out and discover something of their natural bent and inclinations.¹ This is important, as it will help them to determine through their own experience what industry to prepare for in the industrial school to be entered later.

At this stage of development children should not be required to adjust themselves to a program in constructive work. It is time for expression of the spirit of the amateur. If the school does not provide proper opportunities, the home should. Whether at home or in school, supervision by teacher or parent or both is necessary for suggestion and encouragement.

Constructive Activities of Children. We have been applying the term work to constructive activity. Below the age of 14 it is to be regarded as play, and more and more so as we go down the grades. When free to follow their inclinations children of all ages will devote a great portion of their time to many of its forms, even though the material offered for it may not be inviting. They will "work" in clay, sand, or mud, make impossible forms represent the human species, build doll houses, furnish them, make doll's clothes, make wagons, tops, and other things that go. They will do constructively in their own way what they see their elders do and will make toys interesting only to themselves. With kites, balloons, wagons, tops, bow and arrow, and other simple playthings an interest can begin in childhood and continue through stages of

¹ Snedden: "Practical Arts in General Education," *Teachers College Record*, Jan. and March, 1918.

development until in adult years it will involve at the other end of the line the mechanical and mathematical principles of gas and steam engines, projectiles, airplanes, the gyroscope, airships, etc.¹

Right and Wrong Conditions of Work. But the chief thing is that interest must grow and not be commanded. Below the age of twelve, if anything like work is undertaken, it must come by spontaneous desire. Under the proper conditions it will also have educational value. When a child can be at home under the supervision of a sensible parent or among kindly disposed relatives, work on a farm may be a means of mental development even in a young child. There are horses to ride, cattle to drive to pasture, errands to run with a pet dog romping along, wild animals to watch and observe, domestic animals to care for—life on a farm may be a continuous round of educative and pleasurable observation. There may be an occasional adventure in fishing or a trip to the woods for hunting. To give zest to free excursions into the fields and woods, the child should not be unacquainted with some of the drudgery of work. Even for young children, there are routine activities which must be submitted to daily. When a child is old enough to undertake a job he should be encouraged to stick to it until it is finished, however distasteful it may become. For a girl to do housework and a boy to do chores are indispensable to cultivate patience and a feeling of responsibility. But close application to a task until it is done and done repeatedly should be compensated for by long periods of freedom. When, on the contrary, a boy on the farm, for

¹ Hall, G. Stanley: *Educational Problems*, New York, 1911. Vol. I, Chapter VIII, pp. 602-611, D. Appleton and Company.

instance, before he is in his teens, is roused from sleep at five or before to help brother feed the stock, help mother with the wash, then hurry to the barn to help father cut feed and shell corn, then chop and pile wood for the kitchen stove, hurry through all meals, do the evening chores after dark, and hurry to bed soon afterward at ten, and continue day after day with a similar round of duties, with no time for books, and no time for thinking to himself, we should not wonder if in his tender years he makes daily a firm resolve to get away from the farm as soon as possible and flee to the city.

Stages of Development. Normally active children want to work at anything they see others do. And they will enjoy it until the novelty wears off. This is simply the instinctive sign in the young for a change of activity needed by the organism for the exercise of a rested set of muscles. But even then, so long as the work is imitative of some one else's activity, following the initiative and plans of some one else, the factor it involves for mental growth will remain small. It is for this reason that the project or enterprise is introduced in the schools and the home as a second step in which the child can coöperate with others in the plans as well as in their execution. In accordance with this step in this development as workers, children may be organized into groups or clubs to carry through gardening, farming, canning, or household projects. Later as interest grows they will initiate individual enterprises to carry out a home project in some line of work.

Desire to Earn Money. It has been found that many children who engage in some kind of employment not under school control during out-of-school hours and the long vaca-

tion to earn money, gradually lose interest in the work of the school. According to an investigation made in 1916, of 1,177 of the 6th, 7th, and 8th grade in eleven typical states, who expressed a desire to leave school, 38 per cent gave as their reason the desire to earn money, 22 per cent the desire to learn a trade, and 34 per cent declared they did not like school. At bottom the reasons were all the same, probably, the school was not in harmony with the impulse to do something for a money return.¹ All of these children were among the number who had been engaged in work during out-of-school hours. Many were employed in occupations and under conditions that are undesirable for school children. If the commendable impulse to engage in industry were under the control of the school or of both the home and school, the outside activities of the children could be directed along lines that promote development and give promise of future good without loss in money returns.

School-Controlled Enterprises vs. Child Labor. It is easy to distinguish between the attitude of the school and that of the employer of child labor. In the first the interest is in the child, his health, his powers, and his character; in the second it is primarily in the product of his labor, and in the child only so much as economic expedience demands. The one is concerned with the hygiene of work with recreation and periods of rest, the other estimates only the value of the working hours. The one studies to accumulate power and earning capacity, the other exploits and exhausts. The remuneration for child labor in the home as a part of the total family income does not usually appear to

¹ Bulletin, 1917, No. 20, Bureau of Education, Washington, D. C. Jarvis: *Work of School Children During Out-of-School Hours*.

the child in any direct appreciable form. In the factory the pay comes weekly in an envelope. In the school-controlled enterprise, the money return comes with the last transaction of the project, the last item of a simple record of accounts kept by the child himself from the beginning. In this way the financial element of the enterprise also provides a part of the child's training.

CHAPTER V

SCHOOL ATTENDANCE

Compulsory Attendance Laws in the United States.

Since it is not intended to keep children from labor that they may be idle in the streets and left to their own designs, school attendance laws are the necessary complement to child labor laws. All the states except Mississippi have compulsory attendance laws. In four other southern states the laws are not state wide.¹ When the control in the matter is left to local districts, there may be no attendance regulations at all, or there may be no minimum requirement of time the schools must be in session during the year, or there may indeed be no funds to keep the schools open for a definite time every year.

To show the effect of local control, the conditions which obtained quite recently in one of these states may be cited. Twenty-eight counties had no compulsory attendance laws. In those that had, the requirement was that the children attend not less than three-fourths of the time school was in session. But the minimum term requirement was but three months, or sixty days. Thus the law could be satisfied with an attendance of forty-five days. In the same state when sufficient revenue for a sixty-day term was not available, the local electors could by ballot dispense with school for a year and have the revenue accrue to the following year.

In certain states, there are districts in which the property

¹ Bulletin No. 42, 1916; Bulletin No. 47, 1915. U. S. Bureau of Education.

valuation is so low that the maximum tax rate allowed by law does not provide sufficient revenue to keep the schools in session as long as the state law on the other hand requires. In Ohio, this situation is met by a special appropriation for "weak districts"; in 1910 the appropriation for this purpose was \$50,000.

In the following Chart VIII, the states are arranged in the order of the average length of the school term in days (A). This is followed by the minimum requirement of length of term (B), the average number of days attended by each child (C), the rank of the states on this basis (D), and the per cent of illiterates in population 10 to 14 years of age (E).

CHART VIII¹

1916 State	A	B	C	D	E
R. I.	194.3	School year	154.8	1	.6
N. Y.	190.2	180 days	154.3	2	.3
Conn.	183.2	School year	142.5	7	.3
N. J.	183.0	" "	142.9	6	.5
Mass.	181.7	" "	153.0	3	.2
Md.	178.0	" "	124.0	24	2.5
Mont.	176.7	16 weeks	129.4	18	1.3
Calif.	176.0	School year	134.0	16	.6
Ohio	175.3	" "	148.9	4	.3
Vt.	175.0	150 days	140.2	9	.3
Wash.	174.6	School year	136.2	14	.4
Wisc.	173.7	6 months	140.9	8	.3
Penn.	172.7	School year	139.1	11	.5
N. D.	172.6	" "	119.5	27	1.2

¹ Compiled from Report of U. S. Commissioner of Education, 1917, Vol. II and from *Child Labor, Education, etc.*, 1917, published by National Child Labor Committee, New York City.

1916 State	A	B	C	D	E
Mich.	172.0	School year	139.9	10	.3
N. H.	171.5	" "	138.5	12	.3
Me.	171.2	" "	133.8	13	.8
Del.	170.7	3 months	93.5	40	1.5
S. D.	170.0	School year	118.9	28	.7
Iowa	170.0	24 consecutive wks.	128.8	19	.2
Minn.	167.7	School year	127.3	21	.3
Colo.	167.0	" "	122.0	25	.9
Nev.	166.1	" "	124.9	23	4.3
Ill.	164.0	6 months	147.3	5	.3
Kan.	163.7	School year	126.5	22	.3
Nebr.	163.5	12 weeks	120.8	26	.3
Utah	163.0	20 "	132.5	17	.7
Mo.	161.8	$\frac{3}{4}$ school year	118.5	29	1.2
Ariz.	160.0	School year	132.5	17	.7
Ind.	155.0	" "	127.4	20	.3
Idaho	154.9	" "	105.2	32	.4
Wyo.	153.0	" "	117.0	30	.5
Okla.	152.0	66% school year	95.9	37	2.4
Ore.	151.0	School year	135.4	15	.2
Ky.	144.0	" "	95.0	38	6.0
N. M.	142.5	7 months	95.0	38	11.1
Va.	141.0	12 weeks	98.4	35	9.2
Ga.	136.7	4 months	98.9	34	13.6
W. Va.	135.0	24 weeks	96.3	36	2.7
Ala.	135.0	60 days	84.8	45	16.4
Tex.	135.0	" "	91.8	41	6.3
La.	134.9	School year	99.4	33	24.6
Ark.	134.9	$\frac{3}{4}$ school year	91.7	42	8.2
Fla.	130.1	80 days	94.7	39	10.3
N. C.	124.2	4 months	85.4	44	10.1
Tenn.	123.8	80 consecutive days	87.3	43	7.5
Miss.	123.0		75.4	46	12.8
S. C.	108.5	4 months	72.9	47	17.8

In four states the minimum requirements for length of term listed in column B of Chart VIII are not state wide. The states are Rhode Island, Alabama, Georgia, and Louisiana. The first of these maintains the longest average school term in the United States, as may be seen by reference to column A. The state being small there are few districts and in each of them a high standard prevails. In the larger agricultural states with widely differing conditions in local districts and without a state-wide minimum term requirement, state attendance laws will be largely without effect. The laws must require attendance during the time or fraction of the time the schools are in session.

According to the latest statistics the following states have a minimum attendance requirement of 60 days or less: Arkansas, Alabama, Delaware, Nebraska, Oklahoma, Texas, and Virginia. In Oklahoma it is 66 per cent of the school year; this would make the requirement forty days per year.

In column C we have the average number of days attended by each child enrolled. As this is a test of the effectiveness of the schools, the states are ranked on this basis in column D. The large number of juvenile illiterates in column E corresponds in a general way with the low records in attendance in column C. A large difference between the average number of days schools are open in column A and the average number of days attended in column C, the difference between promise and performance, may be seen particularly in the states of Delaware, Maryland, North Dakota, South Dakota, and Oklahoma, not to mention those states that are at the bottom of the list in all respects.

Essential Features of a Compulsory Attendance Law.
The essential features of a school attendance law are the

age limit, the minimum time of attendance required, the exemptions allowed, means of enforcement, and a penalty. The lower age limit is usually 8 in some states, in others 7. The upper limit is as low as 12 in a few states, in most it is 14, in many 15 and 16. The number of years the child is required to be in school ranges from 6 to 8 years. The minimum time of attendance required per year varies from two to nine months.

Causes for Exemption. The usual causes for exemption are illness when certified to by a physician, mental defect, physical defect such as blindness or deafness, poverty, and distance of home of child from school (usually if two miles or more). Many states that require attendance up to the age of 16 exempt children at 14 in case they have completed the elementary school grades. Of course, all children who take other than public school instruction equivalent in character and equal in duration are not required to attend.

The Penalty. The penalty is paid by the responsible parent or guardian of the truant child. It is usually a fine and ranges from a minimum of \$5 to a maximum of \$25 in some states, from a minimum of \$10 to a maximum of \$50 in others. In case the parent or guardian has lost control over the child and cannot compel attendance, the child is regarded as a truant and is sent to a special school known as the parental or truant school. In California the law provides that a child who is absent from school three consecutive days or tardy three days without proper cause is to be regarded as a truant, and when reported a truant three times or more, an habitual truant. In certain states districts may go together to establish schools for truants. In

large cities a school for truants and incorrigibles is a part of the school system. In Colorado, and other states, any child who does not attend school as required, or is incorrigible, or an habitual truant, or who wanders about the streets and public places during school hours and at night is a *juvenile disorderly person*, who may upon complaint by a truant officer be arrested and committed to an industrial school or to a children's home, if eligible on account of age.

According to the laws of Ohio,

Whoever being a parent, guardian, or other person convicted of violation of the compulsory attendance laws, fails or refuses to pay the fine or costs, or furnish the bond provided therein, shall be imprisoned in the county jail not less than ten days nor more than thirty days.

(And) Whoever being an officer, principal, or teacher, or other person, neglects to perform a duty imposed upon him by the laws relating to compulsory education or employment of minors, for which a specific penalty is not provided by law, shall be fined not less than twenty-five dollars nor more than fifty dollars for each offense.¹

The School Census. One might ask how a teacher is to know from the first day whether there are any school absences. In well-regulated districts an official census is taken annually, in which all children of legal school age are enumerated. The clerk of the board is required to furnish the teacher or principal with a list of the children of school age. The teacher reports the children not in school and not excused. Their names are given to the probation or truant officer who gives notice to the parent or guardian. Later, proceedings are begun against the person responsible

¹ Ohio State Laws, Sec. 12980 and 12981.

for the child's attendance in the proper court designated in the law.¹

Poverty as a Cause for Exemption. In many states the law provides that the city or county superintendent or the school committee or board may, at their discretion, exempt certain persons from the penalty of the law. The fine cannot be incurred by an indigent child. In Colorado and Michigan children over 14 years of age whose help is needed for their own or their parents' support; in Oklahoma, Nevada, Utah, North Dakota, North Carolina, those who are needed at home for support without any restriction in age, are exempted. In Michigan the board of education may give relief in money; in Tennessee and Pennsylvania such cases may be reported to the overseers of the poor. In Ohio the truant officer may furnish books and other relief to any child who otherwise would not be able to attend school; and "such child shall not be declared to be a pauper because of acceptance of such aid."

Mothers' Pensions. As a means to meet this situation, thirty-one states have a system of mothers' pensions which the juvenile court or state or local *board of mothers' aid* administers. The support is for widowed mothers or those whose husbands are unable to work. In some states the amount to be paid per child is specified, in others it is left to the discretion of the board.

Legal and Illegal Non-attendance. It follows that there are two kinds of non-attendance, legal and illegal. The following reasons were given to investigators in the home by the mother or the guardian for the non-attendance

¹ Steps taken according to the law of the state of Idaho — Bulletin No. 47, 1915, U. S. Bureau of Education.

of 1,158 boys and girls absent from the public schools of Chicago.¹

CHART IX

<i>Reasons for Absence</i>	Per cent		
	Boys	Girls	Both
Illness of child	46	51	48
Illness of others	6	9	7
Birth, death, wedding, etc.	3	3	3
Church attendance	2	2	2
Work at home	9	14	12
Lack of shoes or clothes	8	7	7
Errands and interpreting	5	2	4
Having company or visiting	2	2	2
"Tardy and so stayed at home"	4	4	4
Working or looking for work	2	*	1
Excused by teacher	*	*	*
Inclement weather	1	1	1
Various trivial excuses	5	3	4
Truancy	7	2	5

* Less than one per cent.

Home Conditions. The cases of absence here listed were found in a poor immigrant section of a large city. The crowded living conditions made sickness among the children a common occurrence and the hard struggle to get things to eat and wear made it impossible even with the best of intentions to keep the children regularly in school. Quoting from the book cited above:

"In many cases the child was ill because his physical needs had not been properly looked after, because the mother was overworked or ignorant or perhaps very poor, and the child had therefore not been taken to a dentist or had his tonsils looked after or

¹ From Abbott and Breckinridge: "Truancy and Non-attendance in Chicago Schools," *University of Chicago Press*, 1917, p. 129.

been given some other necessary preventive treatment. Sometimes the child's under-nourished condition or lack of warm clothing and of shoes that would keep the feet dry had made him susceptible to colds and other illnesses. The fact that approximately one-fifth of all the children enrolled should within three weeks be absent because of sickness shows an urgent need for school nurses and thorough medical inspection. It may be noted too that the visits made by a school nurse, who is also a social worker, not only protect the child from unnecessary absences due to preventive illnesses, but such visits often afford an excellent opportunity for general family service, instruction in better methods of housekeeping, better care of all the children, as well as help in the process of Americanizing many homes."

Sickness of other members of the family accounts for seven per cent of the absences. Work at home for twelve per cent more. One boy was kept home to watch fires for a sick father, another because his mother had gone out to see a doctor; Bruno, 12, was helping his mother do the washing; Genevieve, 12, was tending the shop and taking care of three younger children and a sick mother; Helen, 11, was taking care of her sick mother and the new baby, and also of six other children younger than herself; a boy of 11 ran errands while his mother sewed, another waited at home for coal to be delivered so he could carry it in. In immigrant families a child going to school and speaking English is often kept at home to act as interpreter for a member of the family; he has to wait till the plumber comes, for instance, to tell him what to do, go with his father to court, with his mother to hunt rooms, or with an aunt while she looks for a job.¹

¹ Abbott and Breckinridge: "Truancy and Non-attendance in Chicago Schools," *University of Chicago Press*, 1917. Chapter IX: "Non-attendance at the Source," p. 128ff.

Non-attendance in Rural Communities, Causes of. According to the Bulletin of the Bureau of Education, 1913, No. 8, entitled "The Status of Rural Education in the United States," the per cent of daily attendance of every 100 pupils enrolled in the rural schools of Maryland is only 51, the lowest percentage of attendance in the rural schools of all the states. Delaware is next to the lowest with 51.4 per cent; Colorado next with 53.6. The states ranking highest are Oregon with 90.6; Connecticut, 88.4; Massachusetts, 86.

In a study of rural school attendance in the state of Alabama¹ made in 1918, the year after the compulsory attendance law of 1915 went into effect, the causes of non-attendance are classified. The investigation was made in twelve typical rural counties. The number of children covered was 4,371; they were absent a total number of 156,417 days, and for the following reasons:

Days absent on account of

Farm work	50,620
House work	7,175
Illness	46,323
Bad weather	12,447
Bad roads	2,721
Poverty	2,354
Indifference	21,412
Miscellaneous	13,365

Truancy. Actual truancy when the child absents himself from school without the knowledge of the parent is comparatively rare. It is much more common among boys

¹ Joffe: "Rural School Attendance in Alabama," in *Child Welfare in Alabama*. An inquiry by the National Child Labor Committee under

than girls. In a study of 100 typical cases there were 95 boys and 5 girls. Only 68 were of normal mentality. The largest number, 32, were thirteen years of age; 83 ranged in age from eleven to fourteen inclusive. As might be expected, only a small number were not retarded.¹

Years retarded	Per cent
0	6
1	22
2	21
3	17
4	13
5	16
6	2
7	3

In another study of 1,092 truant boys² twenty per cent were not retarded; the largest number, nearly twenty-two per cent were retarded four years.

Causes of Truancy. A limited study of truancy in the schools of New York City³ revealed the following as the chief causes: gang influence, moving picture shows, indifferent parents, mercenary parents, insufficient guardianship, faulty teaching or discipline, backwardness, lack of interest because of unjustified retardation, physical weakness, oversize, opportunities for employment. In the study of 100 cases before mentioned, described as typical, the causes of truancy were classified as follows:

the auspices and with the coöperation of the University of Alabama, Edward N. Clopper, director, p. 101-124. National Child Labor Bulletin, New York, 1918.

¹ Bulletin No. 29, 1915, U. S. Bureau of Education.

² Abbott and Breckinridge, *op. cit.*, pp. 159, 181.

³ Report of the Superintendent New York City Schools, 1912, p. 245ff.

Fault at home	29 per cent
deceased parents	
desertion	
intemperance	
employed mothers	
unemployed fathers	
Dislike of school	26
Bad companions	23
Fault of boy	11
Desire to work	10
Illness	4

In another study of 3,990 truant boys, about one out of every three came from homes broken by death, desertion, or divorce.¹

Loss on Account of Transfers. While in the large cities the attendance problem is most acute among the children of poor and ignorant non-English speaking foreigners, there is also a large aggregate loss of schooling in the more prosperous districts on account of occasional absence and transfers from one school to another. To be sure, among the poor and shifting population transfers are more common than elsewhere. An instance has been reported of a child who entered the second grade of a city school in November; it was his eighteenth school enrollment. In the city of New York there were between September, 1914, and January, 1915, 84,000 transfers from one school to another. Of these transfers 13,060 were not completed within seven days, the pupils not having been reported as enrolled in the schools which were to receive them. Absence through transfer does not affect a school's average attendance record, as this is based on the enrollment, but

¹ Abbott and Breckinridge, *op. cit.*

it is contrary to the spirit of the law. In a number of cases that have been traced, it is found that as many as two, three, four, and five weeks of schooling may be lost through lack of ordinary care in the matter of transfers. The difficulties are usually increased when the transfer is made between a country and a city school or between a public and a parochial school. "Not found" cases are often such as have been reported as transfers, which are in reality fraudulent attempts by parents to take children out of school and put them to work.¹

Trivial Reasons for Non-attendance. Frequently repeated occasional absence of children coming from the more comfortable homes, whose parents allow them to stay out of school for trivial reasons, is a serious hindrance to school progress. A law that designates an absence of three successive days as truancy is but a mild deterrent to the evil of non-attendance. It does not reach the occasional absentee. In some cities the rules of the board of education allow the truant officer to proceed at any time even after one absence if it is known to be willful.

Coöperation of Truant Officer and Teacher. While it is the duty of the truant officer to enforce the compulsory attendance and the continuation school law, and to dispense relief, he needs, in the first place, the intelligent and faithful coöperation of the teacher who is in a position to know the children best, who must know them individually and the home environment from which they come in order to teach them effectively even though there were no attendance laws. He needs as a matter of course the assistance

¹ Klapper: "The Bureau of Attendance and Child Welfare," *Educational Review*, Vol. 50, p. 369.

of the principal, and he should have the coöperation of the police and other civic bodies.

In some cities the policeman in the performance of his new function of positive social service apprehends every child of school age found on the street during school hours and brings him to the nearest school. To avoid confusion, each child rightfully absent is given an identification slip which will show that the child may be at large.

Support of the Attendance Officers. When it is known that the court stands back of the attendance department, parents learn to respect an order from the truant officer. Social agencies often have information of value in regard to the home conditions of the child. Charitable societies may donate supplies of clothing and food to children whose absence is due to poverty, and the psychological clinic may discover that non-attendance is caused by mental deficiency.

Importance of Regular Attendance. Regular attendance is the teacher's foremost professional concern. The school may fail to reach its aim in any child on account of physical defect or poor health or lack of interest or ability, but through non-attendance it must fail. Every value of school activity is conditioned on the physical presence of the children. The pupil who is behind on account of absence from any cause and who fails of promotion and must repeat the work, is usually a burden to the teacher and a drag upon the progress of his classmates. Through the absence of each child the state, the nation, and the local community suffer a certain loss of the funds provided for maintenance and equipment unused. If we may assume that a school in question is a good one, irregular attendance

is its prime evil. On the other hand, observance of strict and regular attendance begets respect for order and for punctuality in all obligations, and provides one of the moral values of school life.

A Form of Corrective Procedure. There are two kinds of measures taken to promote regular attendance: corrective and preventive. Under the first comes the coercive influence of the truant officer to restore attendance. Under the second comes, among other influences, what the teacher may be able to do to prevent absence.

The attendance regulations of the board of education of one of the larger cities are as follows:

1. Whenever the principals or teachers have reason to believe that the absence of a pupil from school is due to truancy they shall notify the parent or guardian by mail or otherwise and if after the second notification he has not returned to school or satisfactory explanation of absence has not been made, the case shall be reported to the truant officer.

2. At the close of the school every morning and afternoon, it shall be the duty of each teacher to notify parent or guardian of each pupil without exception who is absent or tardy in attendance. Each notice sent shall be noted opposite pupil's name in the register by the letter N in the proper column of the day.

3. Upon the return of the pupil after an absence the parent or guardian shall give in person or in writing an excuse stating the cause of absence. If the cause is due to the sickness of the pupil or necessary attendance upon a sick member of the family or a death in the family of the pupil, the absence shall be excused and so noted by the letter E after the sign of notification made as above.

4. In every case of absence of a pupil for more than three half days in four consecutive weeks for any other cause than permitted above without satisfactory excuse to the teacher, the absentee shall without exception or favor be reported to the truant officer.

In accordance with the first rule a case of truancy or other illegal non-attendance may be proceeded against as soon as it is discovered. The ordinary procedure when there is no "reason to believe" that the non-attendance is illegal, is given in the other regulations. Much waste of effort may be caused by reports to the truant officer of a non-attendance that afterwards proves to have been unpreventable. The machinery of the attendance department is sometimes invoked before the cause of non-attendance is definitely known to be illegal. In American cities there is usually a small number of truant officers in proportion to the number of children enrolled. Since the business of teaching requires an intimate knowledge of the home conditions of the children, even though the attendance record were perfect, the teacher is in a position to know where illegal non-attendance may be expected. Where willful truancy may be expected may be known from the behavior of the children at school. With this information and a little further inquiry the teacher may often eliminate all doubt as to the motive of absences and relieve the attendance department of needless investigation.

Preventive Measures. An indifferent attitude to regular attendance on the part of the parents of a district should be corrected. It may be possible to do this by means of a campaign among them for an improvement of the average attendance record and the good name of the school. They may be ignorant of the necessity of regular attendance and of the proper standard which the school should try to reach through their coöperation. It is possible also to appeal to the individual parent to assist the teacher

in keeping his child at school when it is for the good of both the school and the child.

Often the attendance is good to begin with the first week or two of the term, only to grow slack as the days go by through a waning interest. The teacher should try to anticipate such possibilities not only by keeping the school thoroughly alive but also by helping each individual child to acquire some special school interest such as may be found in games and play, music, drawing, or some other branch of study or skill, which will in time carry interest in the other activities of the school along with the force of its momentum.

And then the school or room spirit may be appealed to when the record is good in order to keep it good. Some teachers appeal in an effective way to the individual children of the grades by issuing to them a small printed form with the name of the child filled in certifying to the fact of faithful attendance and good deportment. It is a good practice, too, to call the attention of the whole school to perfect records and post the record for all at stated periods where all may see it. It is a great mistake for a teacher to assume that the truant office takes charge of the matter to relieve her of all responsibility in regard to attendance. Prevention is the chief function of attendance management and this lies largely within the teacher's province.

General Effect of Attendance Laws. Although there is much difficulty in the enforcement of the compulsory attendance law, school work, especially in the cities, could hardly be carried on without it. Its value in general lies in its bringing to the consciousness of the parent the fact

that the law is available for transgressors. Through its influence the child that can be reached in no other way can be restrained by a fear of the parental school, and the parent can be threatened with a fine. However, only a small per cent of the cases reported by the principals to the truant officer, less than two per cent in some known instances, finally get into court. These are only the cases where parents absolutely refuse to send the children to school after repeated warnings from the attendance officer. When a parent is stubborn in the matter, it is almost without exception due to the economic need of the child in the home. Usually after the case is taken to court the parent gives in, and the procedure is at an end. Rarely is a fine imposed, never if the parent is unable to pay it. In a number of cities, many of the cases that are finally referred to the chief attendance officer to dispose of are settled out of court. For if an attempt were made to send to court all cases referred for prosecution, the court could not handle them with its other duties.

“It often happens that parents who are defiant about conforming to the law become reasonable when the purpose of the law is explained, and when they learn that the state is actually trying to make it possible for them to give their children an equal opportunity with other children.”¹

¹ From report of chief attendance officer, Cincinnati Public Schools, for the year ending August 31, 1917.

CHAPTER VI

GUIDANCE FUNCTION OF THE SCHOOL

Educational Guidance. The school combines with its educational aims the function of guidance of the children toward a suitable life work. It is a part of the state's guidance plan to prevent child labor and compel school attendance. Another part of the plan is to prevent premature withdrawal from school. The larger meaning of vocational guidance is not to find jobs for children; the school is not a rival of the employment bureau. To be consistent the school must exercise the guidance function with educational aims. It is not a money-making but an educational enterprise. Its purpose is not to open a road to immediate profit but to keep the child as long as may be necessary to provide the means of future development in a well-chosen occupation and for a greater productive gain in the long run.

Keeping Children in School. If the outlay of school effort and expense is justified for all the children, then it is an essential economy to keep all the children in school as long as may be necessary to reach the aims for which the schools have been established.

In the great majority of the states children under fourteen are not permitted to work in certain enumerated occupations and not under sixteen in others. The federal

law makes these same limits uniform in all the states by levying a tax of 10 per cent on the net profits accruing from the products of child labor in certain lines of work and under certain conditions.¹ Although this law affects only a relatively small number of child workers, it exerts considerable influence in that it sets a standard to which the states will in time probably conform with respect to occupations exclusively under their own jurisdiction.

As far as the schools are concerned, the child labor laws imply that the child should complete the elementary course by the age of fourteen. Beginning at the age of six, the child should complete the eight-year elementary course in eight years. This is so far from what is accomplished in some of the states that in a few of them a child of fourteen is legally qualified to leave school to go to work at the completion of the fourth grade; in many the limit of advancement required is the fifth grade; in Ohio it is the sixth grade for boys who may leave at 15 and the seventh for girls who may leave at 16. In a few states the completion of the elementary course is required. In others it is provided that the child shall show ability to read, and to write legibly simple English sentences (a few add an examination in the fundamentals of arithmetic) with or without the requirement of the completion of a certain number of grades.

Employment Certificates. On leaving school at legal age to go to work, it becomes necessary for the child to procure an employment certificate. The essential steps in the procedure are as follows:

The child accompanied by the parent goes to the office

¹ See page 55.

from which the certificate is issued with evidence of age and the school record made out by the principal of the school last attended. He is also required to bring a card or statement including the signature from the firm that is to employ him. He must also have a physician's certificate to show that he is capable of doing the work he expects to undertake. All these requirements having been fulfilled, a certificate is issued and given to the child. In some cities a literacy test ¹ as well as a physical examination is required in addition to the school record. Those children who are of the age at which no permit is required must furnish the employer a birth certificate just the same.

Permits to work during vacations may be issued to children who are of legal age although they have not completed the required grade.

When a child withdraws or is dismissed from work the certificate must be returned to the issuing office with the reasons definitely stated; if they are not known, this fact must be stated.

Illegal Withdrawal. The chief problem of both the child labor and the compulsory attendance laws is their enforcement. Laws are enacted and placed on the statute books to satisfy, often only to quiet, an aroused public sentiment. Then it is assumed that they will somehow and by some proper person be enforced. By accident or design the means of enforcement are not always clearly set forth, so that there is much room for evasion. Not all violations, we may be sure, are reported and when suit is brought even

¹ Administration of Child Labor Laws, Part 2, Employment Certificate System, New York. Children's Bureau, U. S. Department of Labor.

in the states where the laws themselves are satisfactory the number of acquittals have been suspiciously large. As far as the laws themselves are concerned, the teacher should form a part of the public that voices sentiments in favor of a strict enforcement. The more so because it is the teacher's professional as well as his ordinary human and civic duty.

Premature Legal Withdrawal. Since the law fixes upon an age of withdrawal, it has the effect in a measure of emphasizing that period as the time to leave school and go to work. Parents often say at that time, "He is old enough, why shouldn't he go to work?" Leaving school at legal age has become the rule to such an extent that the children themselves and even the teachers have come to look upon it as a matter of course. As a result there is an annual exodus of the children from the schools even before, sometimes long before, they are ready to enter high school.

In American cities it is a common practice to carry only half of all the children of the elementary schools to the final elementary grade and only one in ten to the final year of the high school.¹ In the rural schools the showing is as bad and worse as far as the high school is concerned. Taking a state which is fairly representative, and in which the city and the rural enrollment are so nearly the same as to offer a basis of comparison, we find the following grade distribution:

¹ Ayres: "Laggards in Our Schools," Charities Publication Committee, 1909; Bulletin No. 4, 1907, U. S. Bureau of Education; "Woman and Child Wage Earners in the United States," U. S. Senate Document, No. 645, 2nd Session, 61st Congress, 1910.

CHART X

GRADE DISTRIBUTION, CITY AND RURAL DISTRICTS OF OHIO
COMPARED, 1916¹

Grade	City Schools	Rural Schools
1	60,091	55,359
2	52,642	40,652
3	51,108	41,399
4	49,386	40,825
5	45,371	36,764
6	39,263	31,207
7	34,187	28,155
8	29,533	28,014
High School		
1	23,383	5,517
2	15,953	3,828
3	10,750	2,573
4	9,329	1,397

This does not include the villages of the state; only the number of children in the grades and in the years of the high school in the rural and city schools. A marked falling off is seen in the rural high school partly because of the distance of the child's home from the school and partly because the labor of the child is much in demand on the farm.

Why Children Drop Out of School. Children withdraw prematurely from school for about the same reasons as for irregular attendance: ill health, home conditions, or school experiences. Studies that have been made by tracing the motives for leaving school to their source show that two out of five children leave school of their own choice.

¹ Annual Rep. Superintendent of Public Instruction, 1916, Columbus, Ohio.

When the supposed cause is necessity of the parent or when the financial aid though not needed is desired by the parent, it has been shown that whether the child remains in school or not depends more upon the parent's attitude in the matter than upon the size of the family income.¹ It is after all a question with the parent whether going to school is worth while for the child.

About half of those who go to work are dissatisfied with school. They dislike the teacher, dislike study, etc., or are just tired of school. Not only dull but bright pupils are among the dissatisfied who leave school to go to work. The other half, who speak well of both the teacher and the school, are usually those who are naturally industrious and want to go to work to earn money. They do not dislike school, but they like to be free to go to work, often preferring the restrictions of the factory along with older persons to those of the school in company with smaller children. Besides, the influence of their companions who have gone to work and speak well of it draw them away from school. Vacation employment often marks the beginning of a desire to leave the "make-believe" life of the school for the realities of industry. On inquiry of 583 children who left school, it was found that 65 per cent would not, according to their own testimony, have been desirous of staying if training in manual or industrial art had been given in school.¹

Vocational Guidance. The work in which city children who leave prematurely engage is usually of the type for which the schools do not, and really cannot, definitely prepare. It nearly always consists of routine activities, short

¹ "Woman and Child Wage Earners in the United States," *op. cit.*

and oft-repeated processes on parts of manufactured products of the greatest diversity even in a single industry, easy to learn and leading to nothing higher; or the work may be that which is common to all industries, to prepare the finished product for the market: marking, labeling, wrapping, counting, packing, and boxing. Each of these can be done by any child of ordinary intelligence without school preparation. By way of contrast, the rural child is more fortunately situated, for the school can be connected with the farm even in the earlier stages of school progress, and the several occupations of agriculture afford unlimited opportunities for mental development.

If children must or will leave school to go to work, or if it is deemed best that some of them should leave, the school should share with the family in the responsibility of helping them to decide what it is best for them to do. If, in accordance with the law, many withdraw at the minimum legal age, then during the last year they are in school they should study the conditions of the occupations open to those of their preparation and capacity.

The Teacher as Counselor. No one in the school system is in a better position to give wise counsel and sympathy than the teacher. She deals more intensively with the pupils as individuals than any other person in the system. She alone is in a position of daily contact with the mind of the pupil. But even she may not know her pupils well enough to be a friendly guide. According to the usual practice, she has only one year to get acquainted with them as she usually does not advance with her grade. The interest acquired in the children is largely severed when at the end of one year they pass to another room. The expecta-

tion of having a new set of pupils every year does not conduce to thinking definitely of their future economic adjustment. If the teacher does not learn to know the child, no one in the school will, and the child with no moral support from any one submits to the fate of a premature departure from school and a handicap for life largely determined perhaps by a short-sighted or mercenary parent.

To meet this difficulty the school organization may assign each teacher a group of from twenty to thirty pupils who report daily in the same room to the teacher, who may study the tastes and particular aptitudes of each and investigate the home conditions. Under this plan each student has a continuing adviser during the years preceding withdrawal, and in the high school during four years. For several years the pupils are given some experience with drawing, cabinet making, turning, pattern making, foundry, forging, machine work, or some other line of industry. This experience will reveal to the adviser and the pupil himself what he likes to do and what he is best fitted for, and determines the line of specialization that is to follow in continued study in school or productive work outside. The vocational guidance department proper only functions at the end of the school course and the beginning of actual work in remunerative employment, in bringing together the pupil and the position for which by ability and training he is best fitted.

Money Value of School Work. Neither the parent nor the child will appreciate in many instances the argument that a child should complete a full course for certain spiritual values and mental satisfactions that will accrue in the long years to come. It will seem to them more to the point to learn that no one really desires to employ a person

in a worth-while occupation before the age of 16 to 18, and that to continue in school will be time gained in the increased money return to those who come later in order that they may come prepared to engage in industry. It has been found that even in the lowest grades of factory work the uneducated laborer is often unsuccessful. In one factory only 35 per cent of the unskilled remained even in unskilled work, 5 per cent went somewhat higher, while 40 per cent had to be dismissed and 20 per cent left of their own accord for one reason or another. What becomes of these drifters from one job to another?

Numerous studies of the money value of education have been published; one of these is a report¹ of a committee of the Brooklyn Teachers' Association published in 1909 comparing the earnings of New York City children who left school at 14 years of age with those of children who remained until they were 18. The average weekly earnings were as follows:

CHART XI

COMPARISON OF WAGES OF CHILDREN WHO LEFT NEW YORK CITY SCHOOLS AT 14 YEARS OF AGE WITH THOSE WHO LEFT AT 18

Weekly Salary	Left School	
at	at 14	at 18
14	\$ 4.00	\$ 0
15	4.50	0
16	5.00	0
17	6.00	0
18	7.00	10.00
19	8.50	10.75
20	9.50	15.00
21	9.50	16.00
22	11.75	20.00

¹ Bulletin No. 22, 1917, U. S. Bureau of Education, p. 29, 32.

Weekly Salary	Left School	
	at 14	at 18
at		
23	11.75	21.00
24	12.00	23.00
25	12.75	31.00

The total salary of the average child who left at 14 was \$5112.50 at the age of 25, while the total salary of the average child who left at 18 was \$7337.50.

"It is seen that already, at 25 years of age, the boy who had remained in school till he was 18 had received about \$2,000 more salary than the boy who left at 14, and was then receiving \$900 per year more. From this time on the salary of the better boy will rise still more rapidly. However, reckoning the average difference in salary at only \$900 per year, this equals an annuity that would cost \$19,000 if bought from a reliable insurance company—not a bad return from four years of youth devoted to school."

It is held that the average value of school to each child is over \$9.00 a day.

Higher Values. But while the money value of school work is not to be despised, the school must not encourage false notions of success. It is not true that the longer one goes to school the more money he will be able to command when he comes to be an earner. Besides, social efficiency is not to be measured in terms of net income. Those who pursue extensive courses of study to realize the higher values of life are usually willing to forego large money returns for a broader vision of human society. School guidance will largely fail if it does not also help to discover those who are by nature and training fitted for the larger service of the community and the state in the fields of scholarship and the professions.

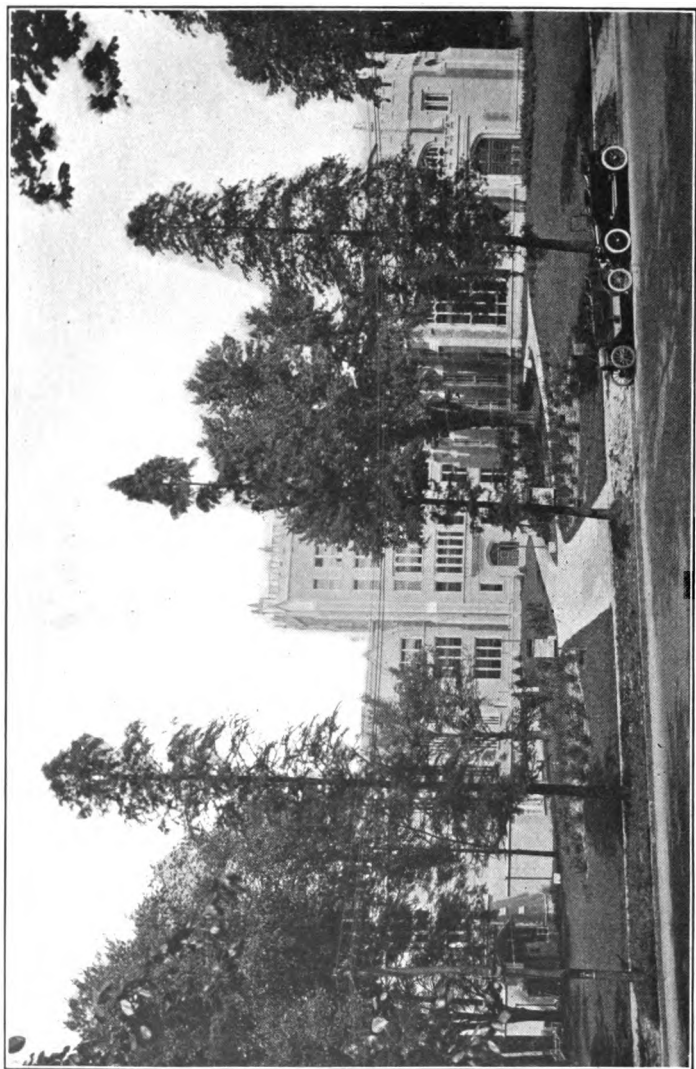


FIGURE 1

AN APPROVED TYPE OF CITY SCHOOL BUILDING¹

¹ Flushing High School, Borough of Queens, New York City. Courtesy of Mr. C. B. J. Snyder, Architect, Superintendent of School Buildings, New York City. For floor plans see *American School Board Journal*, Vol. 52, April, 1916, pp. 16-17.

CHAPTER VII

BUILDINGS AND GROUNDS

Material Attractions. School buildings are now erected on broader principles of economy than formerly. There was a time when it was the ruling policy to keep the initial expense as low as possible, and in many instances to neglect needed repairs until the building became almost uninhabitable. In the early days sites were sometimes selected that could be used for no other purpose; a ledge of rock with no soil to till and hardly accessible in winter over the icy slopes, or a low marshy place that could not be drained. An instance is reported of a school located at the present time next to the village graveyard where the children play hide-and-seek among the tombstones. A total disregard of a suitable place for school work seems to indicate a belief in education as an immanent spirit. It is true that learning is always taking place under any circumstances, whenever there is a desire to learn. The proverbial log in the woods with a teacher on one end and a student on the other would do very well if we could assume a supreme natural desire for educational development. But this is not the case. It is not true of the grown-up, much less of the child. Immature minds need inducements of the higher material sort to undertake a course of training that raises them above their mere instinctive level of life.

Every one has known of school buildings and grounds that invited the contempt and derision of the community. They represented the lowest conception of a gathering place for human beings. State centralization of control has compelled a change. In the most favored states the new buildings are such as arrest the attention, excite the interest, and command the respect of the community. The aim is to make the buildings and grounds beautiful, healthful, comfortable, useful, convenient, and safe.

Location of the Schoolhouse. The location of the schoolhouse follows the principle of the greatest good to the greatest number. If the inhabitants of a district are evenly distributed the schoolhouse would naturally be placed at the geographical center, or allowance may be made for the probable direction that will be taken by the expanding population in the future. The site is chosen from the standpoint of accessibility, health, and hygienic and agreeable surroundings. In the large cities it should be away from the noise of street traffic and the danger of passing vehicles to the children in going and coming.

Types of Buildings. In the building of schoolhouses the structural unit is the single room. Buildings may be of one room, there may be many rooms under one roof, or there may be a group of separate one-room buildings. The one-room building is the simplest type and is common in the rural districts.

The many-room building is well-known in towns and cities, and in the consolidated school of the rural districts. In the cities the growing population makes it necessary frequently to accommodate an overflow of attendance in temporary quarters by providing portable one-room buildings,

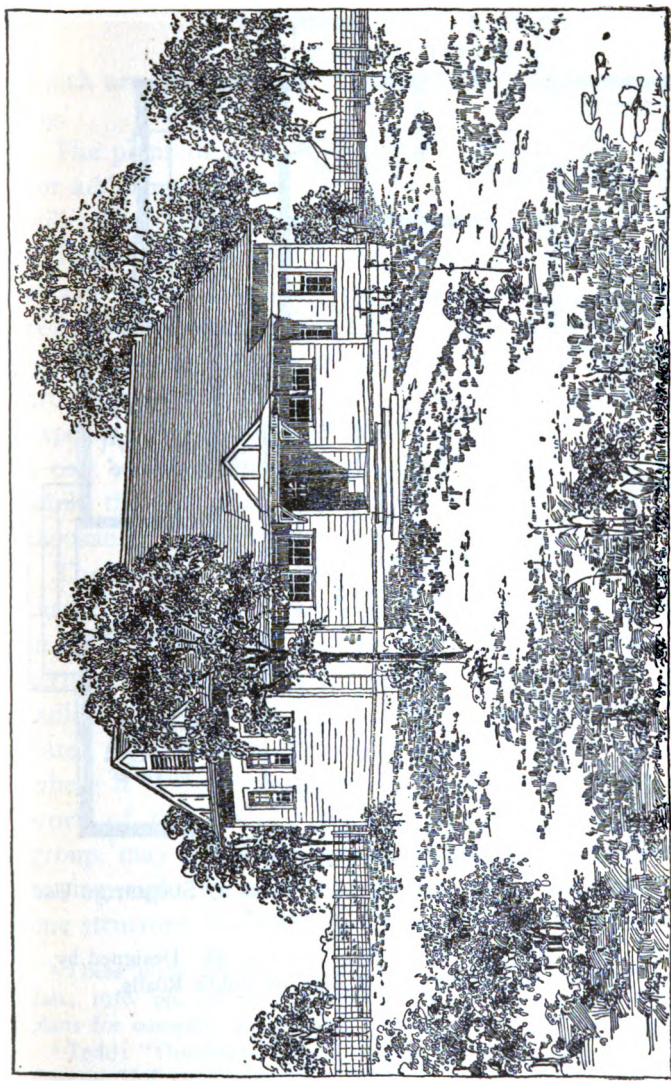


FIGURE 2. A MODERN ONE-ROOM SCHOOL BUILDING¹

¹ *American School Board Journal*, April, 1919, p. 48. Designed by Div. of Rural Engineering,
U. S. Bur. of Public Roads.

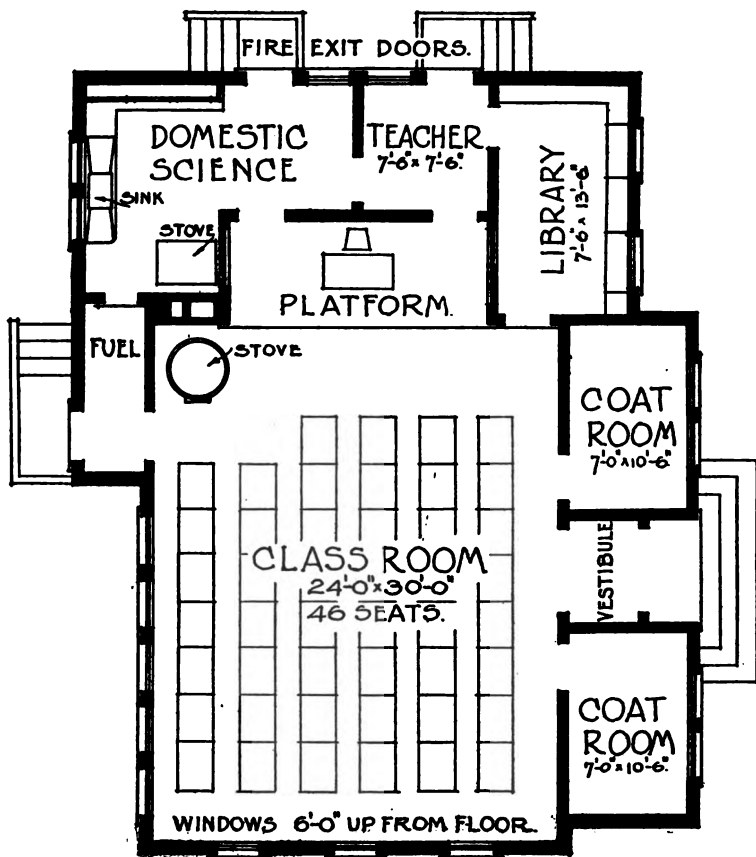


FIGURE 2A. PLAN OF ONE-ROOM BUILDING (FIGURE 2) SUGGESTING USE FOR SOCIAL CENTER PURPOSES¹

¹ *American School Board Journal*, April, 1919, p. 48. Designed by Div. of Rural Engineering, U. S. Bur. of Public Roads.

which are grouped conveniently near the many-room building.

The plans of a building may be so drawn as to provide for additions to take care of future expansion. Figure 3¹ will serve as an illustration, with initial plans (Figs. 4 & 5).¹

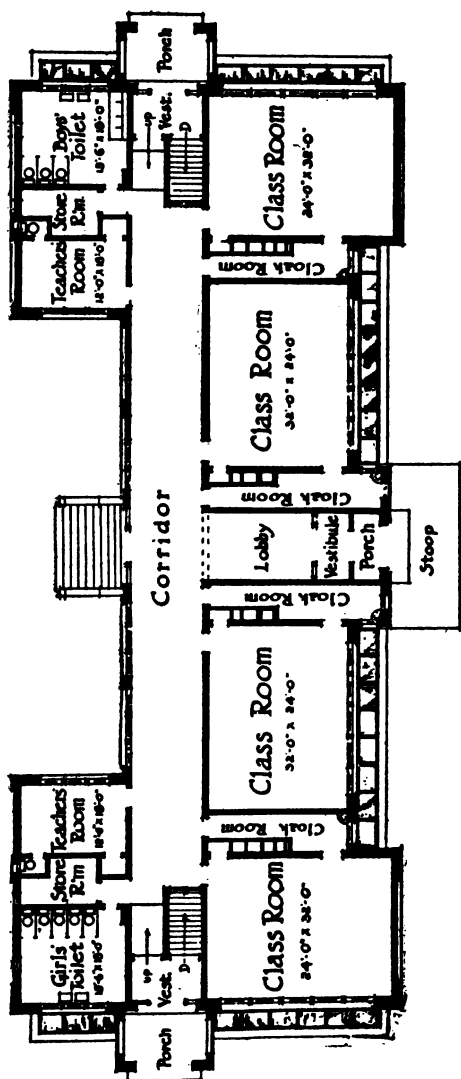
The one-story school buildings have the advantage of greater safety, less noise inside, and less cost. They do not require stairways, which are always expensive. They are easier to keep clean as there is no dust from above. They are well-adapted to the lower grades. In regard to initial expense for building, one-story schools have been built at a cost of from two to six thousand dollars per classroom while the two story type has cost from seven to thirteen thousand dollars per classroom.²

The many-room building has an advantage in the respect that it is capable of the larger and more impressive effects in architecture. Parents as well as their children take a certain satisfaction in their relation to a large and attractive building. The many-room building in the rural consolidated district gives the physical impression of importance where it is often most needed to stimulate interest in the work of the school. But the single-room plan, or unit group, may be adapted also to a large school. Instead of having eight rooms, for instance, under one roof and in one structure, the eight rooms may all be in separate units.

¹ These plans are from *American School Board Journal*, Vol. 52, Jan., 1916, pp. 22-23. Courtesy of Mr. W. C. Bruce, Editor. For plans for complete development of scheme, see the same reference.

² Todd: "One-Story and Cottage Schools," *American School Board Journal*, Vol. 52, April 1916, p. 20.

Perkins: "One-Story School Buildings," *American School Board Journal*, Vol. 56, April, 1918, p. 17.



First Floor Plan

FIGURE 4

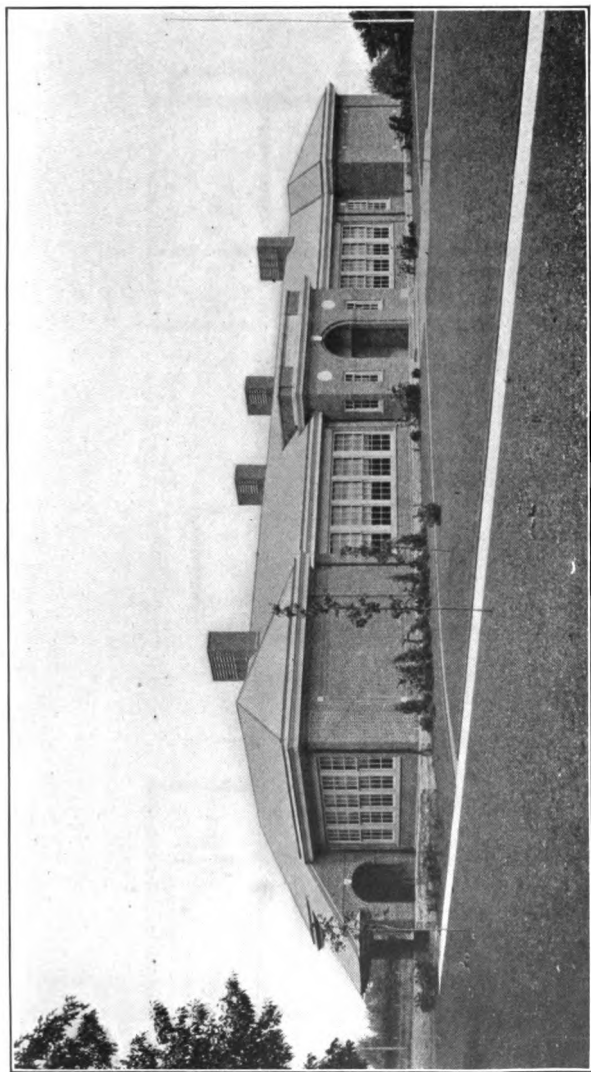
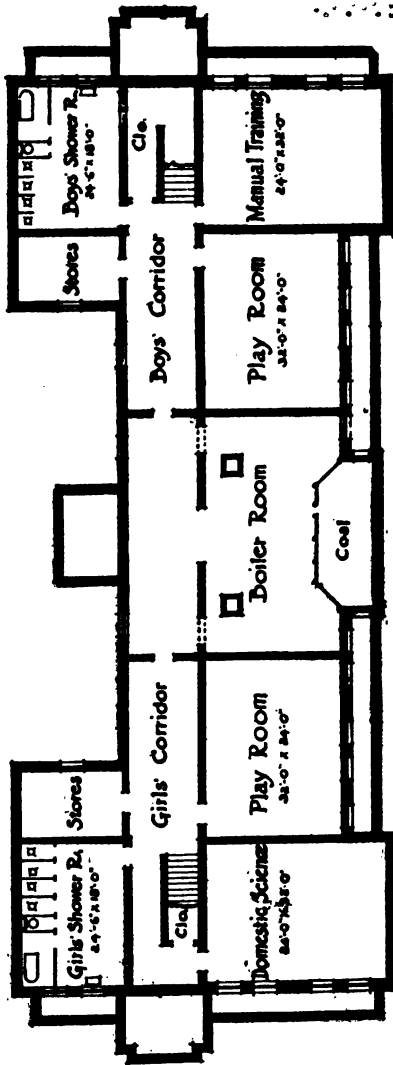


FIGURE 3
A ONE-STORY SCHOOL BUILDING ¹

¹ Grammar School Building, Rosemont, Pa. Courtesy Messrs. D. Knickerbacker Boyd and Victor D. Abel, Architects, Philadelphia, Pa.



Basement Floor Plan

FIGURE 5

Here the architectural effects may also be pleasing if the different units are parts of a general plan.

It is claimed by the advocates of the unit group plan that, except for the initial outlay of expense for larger grounds, their plan is cheaper, that it is more sanitary, that it meets the demands of expansion in a more satisfactory way, that it does not require the construction of large halls and stairways, that the work of keeping the buildings clean is much reduced, that there is less chance of fire, less noise, less distraction, and that it makes the supervision of rooms and grounds easier.

Size of Grounds. An initial outlay for ample grounds with a view to future needs is usually a wise procedure. There is always a rapid depreciation in the value of buildings after a period of use, but there is a rise in the value of grounds, especially in the cities. With ample grounds to begin with, additions can be made without larger outlay for land which the location of the school has served to enhance in value.

In many states certain limits in the size of the grounds are prescribed. In one of the states these may not be more than half an acre, in another one acre, in another one and a half, in Massachusetts not more than two, in Maryland and North Dakota not more than five acres. In the state of Washington there may be ten acres under certain conditions. Ohio gives state aid to elementary schools making one of the conditions that the size of the grounds shall be from one to three acres, depending on the class to which the elementary school belongs. Present tendencies everywhere are indicated by the fact that the older type of legislation states that there shall be "not more" than a certain

number of acres; the more recent type, that there shall be "not less" than the prescribed area. In Minnesota no elementary school shall be built upon a plot of ground that affords less than fifty square feet of playground per pupil; one hundred square feet will be required when conditions make it possible to secure this amount of land. With the coming of the consolidated rural school and the growing sentiment for playgrounds and school gardens, the tendency in nearly all parts of the country has been toward securing larger grounds for the schools. In many places the rural high school requires an agricultural equipment along with a large acreage of land. In the large cities where it is often impracticable to have a large plot of land for a school building, large amounts of money have been appropriated for separate parks and playgrounds.

Two hundred square feet of ground space per child is not too much. The city of London now requires 100 square feet as the minimum. The grounds should be large enough to provide places for the younger children and the older ones to play, and there should be room for a garden, a lawn, flowers, berry-bearing shrubbery and trees to attract the birds, bird-boxes, and perhaps a place for pets, making the grounds all in all a sort of living museum of animal and plant life and providing for the schools real subject-matter for study, thus far so generally lacking in all our schools whether located in the city or the country.

Environment of the School. The coming years will no doubt show a great improvement in the character of the school grounds. They will be ample and well laid out. Figure 6 is an illustration of what may be expected in many districts.

Care of Grounds. It is hoped that the pupils themselves will carry out the plans for beautifying the grounds. Then there will be vines for fences and walls, shrubbery for ornament and for hedges, and a few maples and oaks. "The time will doubtless come when every rural school district will have a janitor, employed the year round, whose duty it will be to care for the school buildings and grounds during

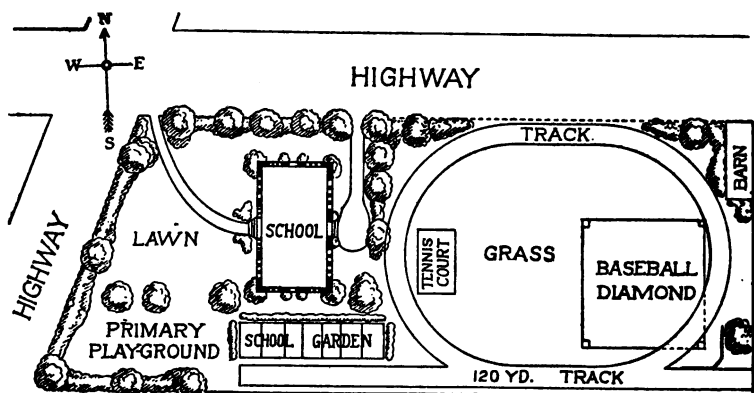


FIGURE 6
PLAN OF SCHOOL GROUNDS ¹

vacations as well as during the school year." But during the months of the school year the grounds will bear witness of intelligent care on the part of the pupils. The work bestowed on them will be of educational value; it will provide object lessons in the care of the lawn, shrubbery, and trees for the future home-makers of the community.

In some of the states the *environment of the school* is guarded in various ways. Some permit no industry or busi-

¹ Grounds of the Harlem Consolidated School, Winnebago County, Ill. Courtesy State Department of Public Instruction, Trenton, N. J.

ness that is in any way offensive within certain limits of the grounds. Many have prohibited the sale of alcoholic beverages within certain prescribed distances from a school, in one state the dry zone having a radius of four miles. In Iowa no bills, posters, or other advertising matter of liquor and tobacco shall be distributed, posted, or circulated within four hundred feet of premises used for school purposes. Minnesota requires that no school site shall be within five hundred feet of steam railroads or manufacturing plants which may be a source of noise or smoke, swampy places, livery stables, or other buildings that may be sources of unhealthful conditions. In a few states good drainage is specifically required, Minnesota directing in addition that made-land or land impregnated with organic matter must not be selected.¹

In regard to the *general structure and proportion of parts* of buildings, lately enacted laws have in a few instances come to a just appreciation of the needs of a school. The schoolhouse building code of Ohio is believed to be "the most stringent set of regulations concerning the construction of schoolhouses which has ever been enacted into law by a state legislature."² Among its provisions are the following:

All rooms or buildings appropriated to the use of primary, grammar, or high schools, including all rooms or buildings used for school purposes by pupils or students eighteen years old or less require a certain class of construction; all buildings more than two stories high shall be of fireproof construction; two stories or less of fireproof or composite construction; under certain condi-

¹ Bulletin No. 21, 1915, U. S. Bureau of Education, Washington, D. C.

² Ayres: "Cleveland Education Survey, School Buildings and Equipment," 1916, Russell Sage Foundation, New York.

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tions a one-story frame building is permitted provided the same is erected thirty feet away from any other building structure or lot line, and two hundred feet beyond the city fire limits.

No school building shall be more than three stories high.

No building shall occupy more than seventy-five per cent of a corner lot nor more than seventy per cent of an interior lot or site.

The minimum floor space and air space to be allowed per person in school and class rooms is as follows:

Grades	Square Feet	Cubic Feet of Air Space
Primary	16	200
Grammar	18	225
High School	20	300

The height of all rooms, except toilet, play and recreation rooms shall be not less than half the average width of the rooms, and in no case less than ten feet. Other rooms shall be not less than eight feet high.

A rest or hospital room shall be provided in all schools containing four and not more than eight rooms. In buildings containing more than eight rooms two such rooms shall be provided.

No assembly hall (which is defined as a room seating more than a hundred persons) shall be located above the second story in a fireproof building nor above the first story in one of composite construction.

Width of Aisles (minimum)

	Primary rooms	Grammar rooms	High school rooms
Center aisles — 17 inches		18	20
Wall aisles — 28 inches		30	36

Other states do not make varied requirements of space according to the age of the pupils. Seventeen inches is low for the width of an aisle. Two hundred feet is the requirement for air space in eight states. For manual training and domestic science the floor space allowance is as high as thirty-five square feet in some of the states.

LIGHTING

The proportion of glass in each building used for school purposes shall be not less than one square foot of glass to each five square feet of floor area; in toilet and other rooms the proportion is as one to ten.

Windows shall be placed either at the left, or the left and rear of the pupils when seated, tops of the windows to be not more than eight inches below the ceiling height.

The unit of measurement for the width of a properly lighted room, when lighted from one side only, shall be the height of the window head above the floor. The width of all class and recitation rooms when lighted from one side only, shall never exceed two and a half times this unit measured at right angles to the source of light.

The number of gas burners shall be not less than in the following proportions:

Rooms	3-foot burners	Sq. ft. floor space
Class	1	12
Auditorium	1	15
Gymnasium	1	15
Halls and stairways	1	24

No swinging or movable gas fixture or brackets shall be used.

In electric lighting all wiring shall be done in conduit. The candle power in relation to the floor space shall be not less than:

Rooms	Candle power	Sq. ft. floor space
Class	1	2
Auditorium	1	2½
Gymnasium	1	2½
Halls and stairways	1	4

Enclosed stairways, toilet rooms, corridors, passageways, shall be lighted by artificial light, and said lights shall be kept burning when the building is occupied after dark.

Means of egress are proportioned in width and number to the

number of persons that can be accommodated in the building. The number of stairways and their construction, self-closing doors, hand-rails and guard-rails, dimensions of stairways, risers and treads for primary, grammar, and other schools, waterproof floors for toilet rooms, treads with rubber or lead mats to prevent slipping, floor and roof loads, dimensions and location of exit doors — for all of these there are detailed specifications.¹

Standard Dimensions of Classrooms. The structural unit of the school building being the classroom, there does not appear to be any good reason why the units should not be of uniform size and dimensions. All classrooms should obviously be of such dimensions in the first place as will most easily meet the difficulties of heating, lighting, and acoustics. The following shows the agreements and differences in three proposed sets of dimensions:²

Height	12, 12, 12½
Width	20, 22, 24
Length	28, 28, 28

A classroom should not be longer than 28 feet because of the difficulty of hearing and seeing for the children who sit in the rear. With sufficient window space a twelve-foot ceiling is high enough; one of fourteen feet is likely to cause echoes and any unnecessary addition to ceiling height entails a useless waste of heat. A width two and a half times the height of the window head above the floor, when the

¹ Ohio School Laws, Columbus, Ohio, 1915.

² Cubberley: "School Organization and Administration," World Book Co., New York, 1916, p. 233; Dresslar: "School Hygiene," The Macmillan Co., New York, 1913, pp. 30-36; Rosenau: "Preventive Medicine and Hygiene," D. Appleton and Co., New York, 1917, p. 1081.

room is lighted from one side only, is too wide, considering that the top of the window should not be more than six to eight inches from the ceiling. As may be seen from the above, the width may be less than twice the height of the ceiling.

In regard to size of classrooms, it is not clear why they should be adjusted to the bodily dimensions of the children using them. The smaller children need at least as much room for freedom of movement and as much air space for metabolism as the older ones. In regard to the air space provided the third set of dimensions is the most satisfactory for all the children. If there must be crowding to accommodate all the children, it should not be resorted to in the lower grades, as is usually the case. In a room of standard size, desks and seats or tables and chairs should be provided for not more than 30 pupils.

Schoolhouses Must Be Made Safe. Parents should have no fears on account of danger from fire. The children should learn how to use fire-extinguishing appliances; more than that, the school should exemplify the principles of fire prevention. No closet for storage should be placed under any stairway. The Ohio law requires a one and a half inch hose of sufficient length to reach any part of the building. Where a water supply is not available standard chemical fire extinguishers must be provided in the proportion of one extinguisher to each 2,000 square feet of floor area or less.

It has been estimated that there are now, and have been for years past, an average of ten school fires a week. In 25 years we have burned 34 capitol buildings, 723 court houses, and 1960 city halls. In 33 years our fire loss has

mounted to \$4,500,000,000.¹ Fire caused us in 1912, for instance, a per capita loss of \$2.55; while in England the loss the same year was only .54, in France .84, in Germany .20, in Sweden .13, and in Switzerland .04 per capita.²

Children Should Be Comfortable. Since it is necessary to have children maintain a sitting posture for considerable periods of time when in school, one of the most important measures is to furnish the school rooms with suitable desks and seats. There should be none but single seats and desks. When a chair or seat is of the proper height the thigh and the lower leg will form a right angle with each other, the lower leg being in a vertical position with the foot resting wholly upon the floor. The seat itself should be concave on top so as to avoid sliding forward in it. The seat should have a back rest, which should support the small of the back only and no other part.

The distance between the seat and the desk should be such that the child will need to lean forward very little to read or write, not so much as to relieve wholly the support at the small of the back. The top of the desk should be at such a height that the arms can rest normally upon it. The angle of the slope of the desk should not be more than 15 degrees. There should be a periodical adjustment of desks at the beginning of the year and about mid-year.³

However, there is so much possibility of discomfort and harm in the use of desks for the lower grades that movable chairs and tables of proper height are recommended for the

¹ Fitzpatrick: "Building the School," *The American School Board Journal*, Vol. 52, Apr., 1916, p. 16.

² "The American City," 1913, Vol. IX, p. 50.

³ Shaw: "School Hygiene." The Macmillan Company, New York, 1901, pp. 147-150.

children of the first three grades. The change from the freedom of out-door life and the home to the restraints of school discipline is at its best so great as to interfere somewhat with the proper functioning of the vital organs, and the demands of muscular control should not be too rigid.

Blackboards and Other Equipment. Blackboards should be of slate. They should never be placed between windows. They should not be placed higher from the floor than 26 inches in primary and 30 inches in grammar rooms.

For all primary rooms there should be a sand table. There should be plenty of objective material for children to work and play with, not only books. To keep this material, the open desk top is not satisfactory. There should be individual lockers built in to the height of the lower edge of the blackboard. This will provide a place for each child to put away material used for individual work, such as colored and writing crayons, scissors, a jar of paste, pencils, a box of paints, pen, ink, etc. There should also be a built-in cupboard about 15 feet long and of the same height as the lockers, where may be stored on shelves the material used by the children in common in their group games.¹

¹ The furnishings for primary rooms approved in the returns to a questionnaire sent out by a Committee of the National Council of Primary Education and favorably reported on at the fourth annual meeting held in February, 1919, include:

“Low shelf space measuring 36 x 18 x 9 inches, for each child, additional shelf space for general materials; work tables and drop leaf shelves, two sand trays, 24 x 36 x 6 inches, each on rolling base; at least 96 sq. ft. of swinging display boards, or four leaves approximately 3 x 4 ft each; library bookshelves and a good collection of picture books, story books, etc.; materials and tools for construction, including building blocks, rubber type, etc.; free floor space at one side of the

Besides, every school's equipment should include a book-case, a table for the larger reference books, waste-baskets, an eight-day clock, a thermometer, and a musical instrument. If a piano is beyond the reach of the school's resources, a mechanical player may be provided with little expense. Many schools now also find it possible to add a moving picture machine to their equipment as an aid to instruction and for entertainment.

In some of the states the board of education is required by law to procure a United States flag, a flagstaff, and the appliances for them for each school district. When the schoolhouse is small, a flagstaff on the front of the building is regarded as a satisfactory substitute for a flagpole placed on the grounds.

The Chief School Attractions Not Material. But the chief joy of school life for normal children is not in buildings and grounds and things to play with, but in their association with one another. All children are interested in others of their own age. When the numbers are small, the school is not of compelling interest. In some of the states a school with an average attendance of less than ten may be suspended by the board of education. When the numbers are sufficiently large to make the school interesting to all, mere association in work and play will bring to the children some of the most valuable lessons of life and in the most impressive way.

room for constructed projects; window boxes for plants and bulbs; convenient toilet and lavatory well supplied with soap and towels. The vote for movable furniture was unanimous, the only variation being that teachers generally voted for tables and chairs while administrative officers suggested chair-desks."

The buildings, grounds, and equipment might be the best that one could imagine; however, without a favorable personality in the teacher, they would all be empty nothings. This is a matter of greater importance the lower we go in the grades. When the child first ventures to school, the kind of personality that greets him is the most important first influence. As the pupil grows in knowledge and advances in the grades, more and more should the subject-matter be the chief consideration. Finally, in the graduate school it is the matter of sole importance.

If, therefore, there is any difference in school buildings and their surroundings, the better and more attractive ones should be assigned to the younger children upon whom their formative influence will have the greatest effect. And in the selection of teachers, personal qualities should be given greater weight in the elementary school than in any school of higher grade.

CHAPTER VIII

FRESH AIR

Statutory Requirements for Heating.¹ A standard requirement for the heating of school buildings is a system that will heat all corridors, hallways, playrooms, toilet rooms, recreation rooms, gymnasiums, assembly rooms, and manual training rooms to a uniform temperature of 65° in zero weather, and will heat uniformly all other parts of the building to 70° in zero weather. Rooms with one or more sides used for open air or outdoor treatment are excepted.

The heating system is to be combined with a system of ventilation which will change the air in all parts of the building except the corridors, halls, and storage closets not less than six times per hour. Wardrobes not separated from the classrooms should be considered a part of the classroom with vent register placed in the wardrobe. The bottom of warm air registers must be not less than eight feet above the floor line; the vent registers not more than two inches above the floor line.

The fresh air supply must be taken from the outside of the building, and vitiated air must not be reheated. The vitiated air is conducted through flues or ducts and discharged above the roof of the building.

¹ Ohio School Laws, 1915.

A hood must be placed over every stove in the domestic science room, over every compartment desk or demonstration table in the chemical laboratories and chemical laboratory lecture rooms, of such size as to receive and carry off all offensive odors, fumes, and gases. The ducts from these hoods must be connected to vertical ventilating flues placed in the walls and independent of the room ventilation. To create a sufficient draft to carry away these fumes and offensive odors, electric exhaust fans are placed in the ducts or flues from the stove fixtures in these rooms; in case electric current is not available and a steam or hot-water system is used, the vertical flues are provided with accelerating coils of proper size.

In a one-room schoolhouse as found in the rural districts, the standard heating and ventilating system consists of any style or design of heating stove enclosed in a jacket made of galvanized or black iron. The jacket extends from the stove tray to a point four inches above the top of the stove.

Fresh air must be taken from the outside of the building and carried to the stove below the floor line either in vitrified sewer pipe, masonry ducts, or ducts made of wrought iron or steel of not less than three-sixteenths of an inch in thickness, riveted together with tight joints. The ducts must be turned up and discharged under the center of the stove, from which the air is to ascend between the radiating surface of the stove and the jacket, and enter the room from the top of the stove.

The stove is to be placed on a cast-iron tray raised three inches above the floor line, of the same size as the enclosing jacket, provided with an opening of proper size to receive the fresh air duct and projecting beyond the stove door one foot in all directions. The stove must be provided with a metal collar extending from the face of the stove to the face of the jacket.

No stove pipe connection between the stove and the smoke flue can be more than 5 feet long measured horizontally. Each room

in which a standard ventilating stove is installed must be provided with a ventilating flue about 12 inches square, placed close to the stove. The vent flue may be of the same area, preferably however about sixteen inches square if that of the fresh air supply is 12, and this must be run through and above the roof.

Vent flues of not more than 150 square inches of area must be enclosed with walls of brick or concrete not less than 4 inches thick, and when of larger area with walls of brick not less than 8 inches thick.

Three Definite Requirements. These are among the provisions of the building code of Ohio. As in other states the statute on heating and ventilation makes three definite requirements: uniformity of temperature in all parts of a room, a uniform minimum degree of temperature, and a change of air six times an hour. The first two prevent sudden changes in temperature and the third aims to prevent an accumulation of poisonous gases. The purpose of uniformity of temperature is to guard against drafts, and the provision for a change of air is to prevent the rebreathing of expired air supposed to be vitiated by too large a percentage of carbon dioxide.

Factors of Ventilation. Recent investigations and experiments have thrown much doubt on the correctness of public opinion on what constitutes good air. There are five factors involved in ventilation:

1. Temperature
2. Air movement
3. Humidity
4. Proportions of oxygen and carbon dioxide
5. Dust, bacteria, and noxious gases.

Air movement depends on temperature, the presence of humidity increases the positive effect of extremes of tem-

perature, and the fourth and fifth factors relate to the purity and the cleanness of the air.

Principal Constituents of Atmospheric Air: ¹

	Volumes Per cent.	Function
Nitrogen	78.09	{ To dilute the oxygen so as to regulate the rate of combustion and respiration.
Oxygen	20.94	
Carbon dioxide	0.03	To sustain life.
Argon	0.94	To regulate the action of the heart, give tonus to the blood, and stimulate the respiratory nerve centers.
Other gases	trace	
Water vapor		

The Oxygen Content of the Air. The oxygen of the atmosphere may drop to 17 per cent or rise to 50 per cent or even higher without producing any notable effects in the vital functions. When the supply is reduced to 11 or 12 per cent the condition becomes dangerous; when it falls as low as 7.2 per cent death results. However, in the closest crowded halls the oxygen content never falls below 20 per cent.²

Moderate changes in the oxygen content of the outer air or of the air in the lungs have no effect on the amount of oxygen used up in the process of respiration. Normally the air of the lungs has a 16 per cent oxygen content. It may fall as much as 4 per cent without in the least changing the amount of the oxygen that is taken up by the blood. The amount absorbed depends upon the need of the cells

¹ Rosenau: "Preventive Medicine and Hygiene," D. Appleton, New York, 1917.

² *Ibid.*: "Preventive Medicine and Hygiene." *Op. cit.*, p. 663.

rather than on the quantity available. It is carried in the blood by means of the hemoglobin of the red corpuscles and discharged to the cells that are "hungry" for it. It is only energy spent in physical or mental work that puts cells in a condition for the reception of oxygen. However, the supply of oxygen in the air of the lungs is always sufficient for all purposes.

Purity of the atmosphere, therefore, is not proportional to the amount of oxygen there is in it, as has been commonly supposed. In the higher altitudes where the air is described as fresh and invigorating the oxygen content is not so great as in the lower altitudes.

Difference in composition between inspired and expired air is as follows:

	O	N	CO ₂
Inspired air	20.81	79.15	.03
Expired air	16.033	79.557	4.38

This shows that the chief result of breathing is an increase of carbon dioxide and a decrease of oxygen. But the proportions of the two gases present in the expired breath are not such as to be in the least harmful. If carbon dioxide were a poison at 4.38 per cent in expiration, it would probably injure the mucous membrane of the air ducts on its way out. We drink it in beverages and it may be inhaled without noticeable effects. Normally the alveolar air in the lungs is 5.6 per cent of CO₂.¹ In workshops and in places where people are crowded close together the carbon dioxide content may rise to twenty-four times the normal proportions without harmful results.

¹ Haldane: "Organism and Environment—Breathing," Yale Univ. Press, New Haven, Conn., 1917, p. 8.

Recent Experiments. Paul's experiments showed that healthy persons could be shut up in an air-tight cabinet and kept comfortable as long as four hours and until the carbon dioxid rose to 50 times the normal amount in the atmosphere, so long as the temperature and the moisture were kept low. When the temperature was raised to 80° with moderate humidity and when as low as 70° with high humidity, practically all in the cabinet at once began to suffer from depression, headache, dizziness, or a tendency to nausea. This condition, it was found, could be relieved by lowering the temperature, or by drying the air, or by putting it in rapid motion with a fan attached to the inside of the cabinet. These results were confirmed by three other investigations.¹

Harmful Gases. Carbon dioxide may be an index of the amount of rebreathed air and thus an index of the thoroughness of air circulation in any room. But air is made impure not by the gases which enter into it but by those foreign to it which take its place and are injurious to the respiratory organs. Of all of these the most dangerous is carbon monoxide. This may come from leaks in gas pipes and fixtures, from spent gases from automobiles, from premature closing of dampers of stoves and furnaces, and other sources. Air containing 0.4 per cent of this gas may be fatal in an hour's time.

Clean Air. The air is clean when it is free from dust and bacteria. This is only relatively true, for dust and to a certain extent bacteria are a normal and, at least as far as dust is concerned, an indispensable condition of the atmos-

¹ Rosenau: "Preventive Medicine and Hygiene," *op. cit.*, p. 685.
Hill, L.: "Stuffy Rooms," *Pop. Sci. Mo.* 1912, p. 390.

phere. We are told that without dust there would be no rain, no clouds, no mist, and perhaps no light, because there would be no means of light reflection and dispersion. Dust becomes injurious when excessive amounts of it from inorganic sources irritate the mucous membrane of the mouth, nose, and throat, and prepare the way for infection through the harmful bacteria which may be attached to the dust particles of organic or other origin.

There is more dust in the air inside houses than outside as a rule; there is more dust in the city air than in that of the open country. In the open country, too, any noxious gases or high concentration of carbon dioxide that might be present would be dispersed at once in the free air. When from the standpoint of purity and cleanness of air, therefore, we judge the kind of air that should be supplied to any room, a matter of first importance before that of a ventilating system, we should say that the air taken in should, as far as possible, be as pure and free from dust as that of the open country.

Humidity. Absolute humidity is the weight of water vapor per unit of air. Relative humidity is the ratio of the amount of water vapor in the atmosphere to the amount it could hold at the temperature in question if saturated. Roughly every 27° F increase of temperature doubles the amount of water vapor the air can hold in proportion to its weight; 32° can hold one one hundred and sixtieth of its weight of water vapor, 59° one eightieth, 86° one fortieth. The important thing is not how much water vapor there is but how much more a unit weight of air can hold. It is this that has an effect on the heat regulating mechanism of the body.

Food and Body Heat. The purpose of this mechanism is to keep the body temperature relatively constant in all the variations of external temperature. Eighty per cent of the heat generated by the food we eat goes to sustain this body temperature. A lowering temperature stimulates the appetite for food and increases metabolism in answer to the increased demand for heat. Children who are under-fed and the aged with feeble powers, need to be warmly clothed to compensate for the lack of heat energy produced. But under ordinary circumstances more heat is produced in the body than is needed, especially in seasons of increasing external temperature.

Excess of Body Heat. The excess of body heat is transferred to the surrounding air by radiation, evaporation, and in other ways. The more the surrounding temperature rises the less heat is transferred from the body. When it rises to about 70° or above, the regulating mechanism brings about the secretion of perspiration for an added means of transfer by evaporation. This can take place rapidly only when the humidity is low; that is, when a large amount of moisture can still be taken up by the surrounding air. When the humidity is high, this avenue of escape of the body heat is largely shut off. The next step the vasomotor mechanism takes is to send blood to the skin as shown by the flushed face. This causes the temperature to rise on the surface, whence it is again transferred in additional measure to the surrounding air by means other than evaporation. All the means of transfer now operate together, when the temperature and the humidity are both high, but with increasing difficulty as they mount higher. When the temperature rises to 85° with high humidity, the body tem-

perature begins to go above the constant point of $98\frac{3}{4}^{\circ}$; that is, the vaso-motor regulating mechanism is no longer equal to its task.

Air Movement. But in all this we have not considered the possible intervention of air movements. In the cabinet experiment, when the temperature, the humidity, and the carbon dioxide content were high, and the oxygen content was low, relief came at once to the inmates when an electric fan attached to the inside of the cabinet was set in motion. It is believed that in still air, whether inside or outdoors, an aerial envelope is formed close to the body. This prevents heat transference beyond the envelope, and when the body is also still as in a crowded assemblage indoors, the feeling of lassitude, dizziness, fainting, and other manifestations of illness reveal the not unfamiliar symptoms of "crowd-poisoning." The same thing in aggravated form accounts for the tragedy of the Black Hole of Calcutta. This was a military prison, 18 feet square and with only two windows on one side for ventilation, into which 176 adults were put at 8 P. M. Some of the inmates died within an hour and in the morning only 23 were found alive.

"The air which surrounds the body has two principal functions: a chemical and a physical. It oxygenates the blood and removes the body heat. For the performance of its chemical function it must contain a sufficient amount of oxygen to keep the hemoglobin saturated and be free from poisonous gases; for the performance of its physical function it must be cool enough to absorb the heat of the body, dry enough to take up moisture from the skin, and have motion enough to carry away the aerial envelope to which this heat and moisture are transmitted. If the air of the room is not renewed its oxygen is gradually consumed and it becomes

laden with heat and moisture from the bodies of the occupants. In this way it may finally become unable to perform either of its principal functions. A constant supply of fresh air is therefore necessary. But careful experiment has demonstrated that under all ordinary circumstances the fault develops on the physical side so far in advance of the chemical that the latter may be practically left out of consideration. Relatively small amounts of fresh air will always supply the chemical needs of the body; large amounts may be necessary to supply the physical demands. Granted that the small amount of air necessary for the demands of respiration is supplied, the control of its physical properties becomes the great problem of ventilation; and of these physical properties temperature is vastly the most important. The success of ventilation depends far more on supplying conditions suited to the outside of the body than to the inside of the lungs."¹

Importance of Changing Rate of Temperature Stimulation. Air movement is artificially produced by the whirling motion of a fan; naturally, it is due to changes in temperature. In the schoolroom the heating engineer has produced a very perfect system of ventilation, maintaining a uniform temperature and changing the air content a desired number of times; but he has produced new conditions that have existed nowhere under the sun. His system is artificially perfect and perfectly artificial, as no such thing exists in nature anywhere except in languid tropical latitudes. Life itself is adverse to uniformity. Variety of stimulation animates, monotony deadens. There is not one sense organ, but many. And each one of them requires a changing rate of stimulation to keep it responsive. The skin is an organ of sense extending over a large area. The tempera-

¹ Crowder, T. R.: "The Ventilation of Sleeping Cars," Trans. American Society of Heating and Ventilating Engineers. Vol. XXI, 1915, p. 274.

ture sense is exposed over this area and is constituted of "cold spots" and "hot spots" which function separately when separately stimulated by artificial means under laboratory conditions. The mechanism which responds to changes of temperature is kept alive and active by a variety of cold and warm stimuli. Hot and cold plunges are needed for some children to stimulate breathing immediately after birth.

Habituation of the body mechanism to a uniform temperature is unfavorable to health and well-being, especially if the temperature is high. For many thousand years the human race has become adapted to outdoor life and a wide range of temperature stimulation such as exists in the north temperate zone, a latitude of optimum conditions for mental and physical activity and the fruits of civilization.¹ The outdoor temperature varies, the outdoor humidity varies; in our homes and schools we would make each uniform.

Not only is there a latitude of temperature stimulation, but there is evidence to show that seasonal changes during the year that afford a wide range of stimulation are the most favorable for work. Also, the part of the day of twenty-four hours in which occurs the greatest range of variation in temperature is the time when people as a rule prefer to do their work. That is, the time of the most active peripheral stimulation of the temperature sense is the period of optimum vital functioning, of general well-being, and an inclination to work.

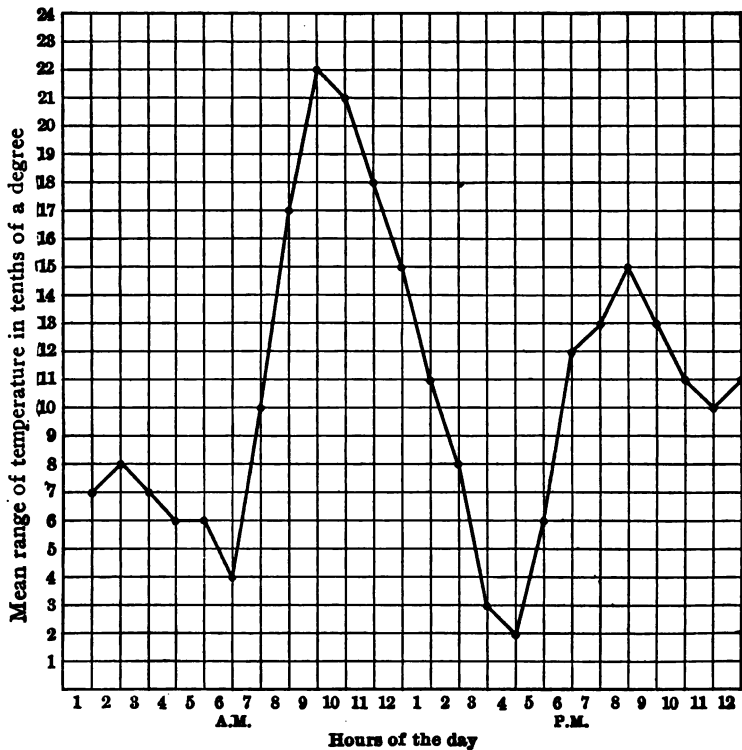
The Outside Temperature. In the temperature records of the Cincinnati station of the U. S. Weather Bureau,

¹ Huntington: "Civilization and Climate," New Haven, *Yale University Press*, 1915, p. 119 ff.

of the year beginning July 1, 1916, to June 30, 1917, it appears that the hours of the day that show most frequently the greatest range of variation for the day occur in the forenoon, beginning roughly at six in the summer and at nine in the winter months. In this year there were single

CHART XII

Curve showing mean hourly range of temperature during the day, covering a period of twenty-one years, 1890-1910. From the records of the U. S. Weather Bureau, Cincinnati, O.



hours that showed a range of from 8° to 20° . While in our homes, offices, and schoolrooms we live in a uniform tropical temperature in a still atmosphere, healthful open air conditions would give us temperature variations as great as from 8° to 20° in an hour. An investigation on the basis of records of *mean* hourly temperature taken at the same station and covering a period of twenty-one years, 1890-1910, confirms the general principle that the hours of greatest range of temperature coincide with what are usually considered the best working hours of the day.

Explanation of the Curve. The curve gives in graphic form the hourly temperature conditions for a period of twenty-one years. It was derived by taking the mean hourly temperature as reported by the U. S. Weather Bureau at Cincinnati for the months of the given years (1890-1910), then comparing each hourly mean with that of the succeeding hour of the twenty-four and noting the difference, and finally taking the mean of the difference for the twelve months. Fractions of a half and below were disregarded.

The results show that there are *two waves of instability of temperature*; the greater from about the seventh hour to the second in the afternoon, the lesser from the sixth in the afternoon to the tenth in the evening. The normal conditions of the outside atmosphere provide constant variations of temperature in temperate climates and hence a constant natural movement of air. This air movement is greatest at that period of the day which from time out of mind the race has chosen for maximum activity. This seems to fix a standard in a general way which ventilation of workshops and schoolrooms should approximate. At

least an air movement at the rate of 2 feet per second should be maintained in every room. Expert authority now recommends a greater range of temperature than formerly. The limits of the temperature of schoolrooms have been placed as low as 60 to 68°. It is held that the lower tem-

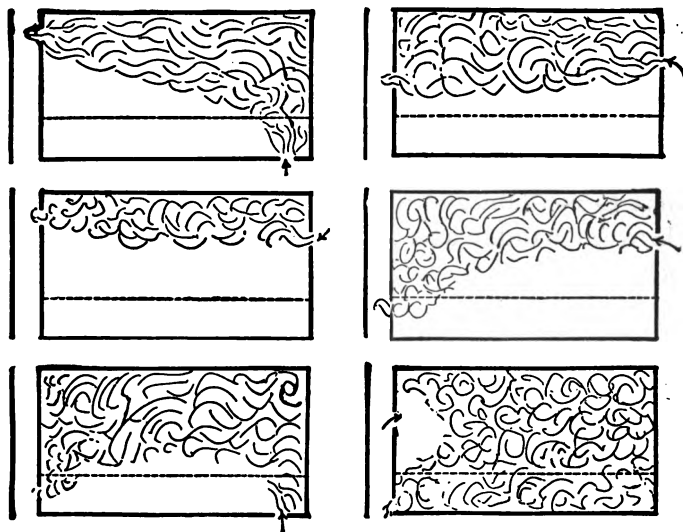


FIGURE 7

EFFECTS OF LOCATION OF INLETS AND OUTLETS IN A ROOM¹

peratures will usually provide the most satisfactory conditions of humidity.

Importance of Moving Air, on which the chief stress is now laid, serves to scatter the expired air which in still places is largely reinhaled, to disperse the stagnant and "dead air" spaces which can be found in almost any room,

¹ Shaw: "School Hygiene," *op. cit.*, 82-83.

especially when inlets and outlets are incorrectly located as in five of the examples in Figure 7 (page 127). A thorough circulation serves to eliminate odors, to disperse concentrations of gases, and to break up the envelope of air that forms around the bodies in still places and negatives almost every good effect of ventilation. To accustom the body to currents of air with varying temperature is probably a factor in producing immunity from colds.

Heating Systems. Heating systems are founded on the principles involved in natural ventilation. They operate regularly and uniformly while the natural atmosphere is subject to constant and often great variation. The parallel between natural and artificial ventilation is here indicated:

Causes of Natural Ventilation

1. Changes of temperature cause the air to move: warm air rises, cold air falls.
2. Air blows into a room from the outside.
3. Air is sucked out by passing currents of air.

Artificial Systems

1. All heating methods have this effect until the temperature becomes uniform.
2. The *plenum* system does this in a mechanical way.
3. The *vacuum* system does this in a mechanical way.
4. A combination of 2 and 3.

Methods of Heating, and Humidity. Hot-air, hot-water, and steam heat, all have a ventilating as well as a heating effect; the objection to all, especially the first, is that they produce an atmosphere in a room that is characterized by a lack of humidity. As the temperature rises in such a room the humidity falls. To relieve this condition it is recommended that large wide pans of water be ex-

posed to the atmosphere so that the dryness may be counteracted by evaporation. According to a calculation made by Ingersoll ¹ a house containing 17,000 cu. ft. of space would require, for a relative humidity of 40 per cent at 70° F. in the air already containing 20 per cent humidity and changed once an hour, about 15 gallons of water a day. A school-room of standard dimensions, say 8400 cu. ft. (p. 108) would on the same basis require about five and a half gallons a day, if the air were changed once an hour or six times while the school is in session. But the standard school requirement is six changes per hour. We can see that the use of water pans would be inconvenient and the supply of water vapor would be inadequate, especially as by such a method the water does not readily vaporize. A better method to increase humidity is by means of properly muffled jets of steam introduced into the plenum or fan chambers from the boiler supply. That humidity in school-rooms may go so low as to be a menace to health is unquestioned, even though recent experiments seem to show that the mental efficiency of adults is not impaired by a relatively low humidity.² "An out-of-door air in winter at a temperature of 0° F. with a relative humidity of 50 per cent when heated to 70° will have a relative humidity of only 3 per cent. This is drier than the air of the driest climate known, which is seldom less than 30 per cent. It is not unusual for the excessively dry air of a furnace-heated house to cause the wood-work to shrink and fall apart, the

¹ Quoted by Rosenau: "Preventive Medicine and Hygiene," *op. cit.*, p. 765.

² Stecher: "The Effect of Humidity," *Archives of Psychology*, No. 38, December, 1916.

binding of books to crack, etc. Living in such an atmosphere is not normal and must be harmful." ¹

Causes of Lowered Resistance to Colds. The unnatural high temperature of houses and schoolrooms, it has been found, imparts a predisposition to infections of the nose and throat. In the course of the investigations carried on by the New York Commission on Ventilation covering the reaction to heat and cold of nearly 150 male subjects under observation, "It was found that heat ordinarily causes a swelling of the inferior turbinates of the nose, tending to diminish the size of the breathing space, increased secretion, and reddening of the membranes. The action of cold, as a rule, is just the opposite, namely a reduction in the size of the inferior turbinates, a diminution of secretion and color of the membranes. In the industrial workers, whose occupation involved continued exposure to extremes of heat and cold, these typical changes were not followed." ²

In the same investigation, it was found too that over-heating diminished the power of resistance to infection.

There is now considerable evidence to show that a lowered power of resistance to colds and other ills is due to too much clothing and to a temperature too much above 68° F. in our apartments and schoolhouses. In uniform conditions of a high temperature, the sense-organ of temperature, the skin, along with the heat-regulating mechanism of which it forms a part, becomes debilitated through lack of varied stimulation. It gains so little experience with

¹ Rosenau: "Preventive Medicine and Hygiene," *op. cit.*, p. 765.

² Palmer: "An Outline of the Activities of the N. Y. Comm. on Ventilation," Transactions American Soc. Heating and Ventilating Engineers, 1916, Vol. XXII, p. 355.

the sensations of cold that when a chilling draft passes over it, its power of vigorous and healthy response is to a large extent lost. Those persons who can enjoy a draft of cold air as it meets them before an open window, have usually no fear of "catching cold."

Open Window Ventilation. Under the simplest conditions, open windows are the best and most efficient means of ventilation. The windows of a schoolroom should frequently be opened during the day from the bottom so that the air can rush in with perceptible movement. The windows may be lowered from the top or from the bottom with the use of window boards, if a continuous but imperceptible ingress of air is desired. However, this is not sufficient for ventilation of the room. The air must occasionally be let in so that its freshness is felt on the body by every pupil in the room.

By this method the best air circulation that can be had is brought into the room with a stimulating variation of temperature and humidity. Stale air, like stagnant water, may not be actually poisonous, but it is not satisfying unless taken fresh and flowing. Systems of heating and ventilation which are thrown out of order if a window is opened "when the fan is running" have seldom proved satisfactory to any one but the janitor. Large buildings must obviously continue to be heated by some artificial system; the near future promises marked improvement in this field, upon the details of which only expert engineers are qualified to speak at present.

Standard Atmospheric Conditions in a Schoolroom. By way of summary, the various factors that belong to ventilation of schoolrooms is a certain content of air-supply per

pupil, a certain limited range of temperature, not an excessive amount of dust or bacteria, a certain humidity, and an almost perceptible continuous air movement. The following has been offered as an acceptable standard of atmospheric conditions in a schoolroom:

Air supply	30 cu. ft. per minute (minimum)
CO ₂ content	8 parts in 10,000 parts of air (maximum)
Temperature	68° Fahr. (maximum)
Relative humidity	42 per cent. (minimum)
Dust count	100,000 particles per cubic centimeter (maximum)
Bacteria	12 colonies on a three-minute plate (maximum)
Air movement	2 feet per second ¹

Open Air Conditions. The open air school was first introduced to provide for the instruction of anæmic and tuberculous children, who could not thrive under the ordinary conditions of schoolroom ventilation. In the United States the movement began in 1908. By 1912 the plan had been adopted in forty-four cities, in which the vacant space on the roofs of large school buildings was at first utilized for the purpose. The children require suitable clothing cut so that it can be worn over their other clothing and adjusted to individual size. Hoods are provided to be fastened to the collar and to be worn over the head in the coldest weather. The feet are covered with boots of heavy felt.

The results of the open air school have been so satisfactory not only in the gain made by the pupils in weight and

¹ Hill: "Transactions American Society Heating and Ventilating Engineers," 1916, Vol. XII, p. 395. For methods and devices employed in making tests see Report of the Chicago Commission on Ventilation, Chicago, 1915, pp. 70-99.

health but also in the advancement shown in their studies, that the plans for new school buildings in the larger cities are now usually made to include one or more open-air classrooms.

Effect of Different Types of Ventilation on the Health of Normal School Children. There seems to be no valid reason for not providing the most healthful air conditions for all pupils, especially when it also results in a saving of fuel and other items of expense. In order to obtain definite data of the effects of the open-window type of ventilation and the mechanical type with closed rooms, the Bureau of Child Hygiene of the Department of Health of New York City began in February, 1916, an inquiry into the possible relationship between the prevalence of respiratory diseases among school children and classroom ventilation. The study was made in coöperation with the New York State Commission on Ventilation, which had full control of the selection of classrooms with reference to the type of ventilation to be included.

The inquiry consisted of two complete studies. The first period of observation lasted from February 19, 1916, to April 8, 1916. The second study began with the advent of cold weather and covered the period from November 4, 1916, to January 27, 1917. Three types of ventilation formed the basis of the study: *Type A*—"so-called cold, open-window classrooms, ventilated by natural means," with a temperature range of 50° to 60° F. "and occasionally higher"; *Type B*—with ventilation wholly by open windows, with a temperature range of 60° to 70°, averaging 68° F.; *Type C*—temperature range the same as Type B, averaging 68° degrees, with ventilation of classrooms

by the plenum fan system installed in the buildings, the windows in these classrooms being kept closed.

There were 5,543 children, enrolled in grades 2B to 6A, eighty-six per cent between eight and eleven years of age, and "ranging in social status from the well-to-do who live in comfortable homes, in sanitary surroundings, to the extremely poor, shiftless, and ignorant type, where the children receive no home supervision or hygienic care."

The conclusions are as follows:

"In the closed-window mechanically ventilated type of classroom kept at a temperature of about 68 degrees F., *the rate of absences from respiratory diseases* was 32 per cent higher than in the open-window, naturally ventilated type of classroom kept at the same temperature (about 68 degrees F.) and about 40 per cent higher than in the open-window, naturally ventilated type of classroom kept at a temperature of about 50 degrees F.

"In the closed-window, mechanically ventilated type of classroom, kept at a temperature of about 68 degrees F. *the rate of respiratory diseases occurring among pupils in attendance* was 98 per cent higher than in the open-window, naturally ventilated type of classroom kept at the same temperature (about 68 degrees) and about 70 per cent higher than in the open-window, naturally ventilated classroom, kept at a temperature of about 50 degrees.

"It was found that the relative humidity of classrooms, whether ventilated by natural or mechanical means, was not a causative factor in the occurrence of respiratory illness among the school children."¹

¹ Baker: "Classroom Ventilation and Respiratory Diseases Among School Children," Department of Public Health of the City of New York, Reprint Series, No. 68, February, 1918, 10 p.

CHAPTER IX

SANITATION AND SCHOOL HOUSEKEEPING

HOUSEKEEPING in the school should follow the usages in the best regulated homes in the district, or better, it should be an example of the best to be had anywhere. At least, it should present to none of the children lower ideals than they have at home. In the matter of order, cleanness, care of property, thrift, and economy of supplies, the school should teach chiefly by example. The visible evidence of good housekeeping wins the immediate and certain approval of all who come to form an estimate of the school. Lack of it excites disrespect in the pupil for his own school and creates an impression in the casual visitor that other signs of excellence will not overcome.

Where Sanitation Begins. The sanitation of a school-house begins on the grounds. The conditions for it must be provided before the teacher's responsibility begins. The grounds should be sufficiently large to allow a free circulation about the building of the best air to be had, and they should be far enough away from tall buildings to allow free access to the rays of the sun. Orientation of the building should be north and south so that the rooms may be on the east or the west for either the morning or the afternoon sun. Trees should not be planted near the building for they will in time keep out the sun. There should be

no dark and unusable corners in the building. The grounds should also be well-drained, for muddy yards will make dusty rooms. Under certain conditions metallic door-mats should be provided and shoe-scrapers for cleaning shoes before entering the rooms.

Ventilation and Sanitation. Ventilation is a part of sanitation in that a building that is not well ventilated cannot be sanitary. Means of sanitation such as sweeping and cleaning a room are also necessary to good ventilation, for if the air is full of dust and filthy odors the ventilation itself, however good, cannot be satisfactory. Interior construction and furnishings should guard against dust-catchers. The wood-work should be smooth with corners beveled, and there should be no portieres, curtains, decorative festoons, or other dust receptacles.

Drinking-Water. In 1909 only one state, Kansas, prohibited the common drinking cup in school buildings. In the course of six years twenty other states had followed the example. Ohio requires one drinking fountain and one sink to every 6,000 square feet of floor space or fraction thereof. Where a water supply and sewerage system are not available, pumps must be provided and a gutter or drain of concrete or sewer pipe must be constructed to carry all waste water to a distance of 20 feet before discharging it. A driven or tubular well should be provided in preference to a dug or shallow well.

Toilet Accommodations. The toilet accommodations should be ample, sanitary, and so disposed as to insure privacy. Statute requirements are such as have been the standard for many years among experts in sanitation. They are as follows: one closet to each fifteen female pupils

or less and one closet to each twenty-five male pupils or less. The same proportion holds whether the toilet rooms are inside or outside the building. Outdoor closets must not be placed nearer than fifty feet from the school building, and there must be widely separated buildings for males and females. They should be placed in the farthest opposite corners of the lot and the entrances must be screened to secure privacy.

Nuisances. In most states the local districts control matters of this kind and in many cases control it so badly that the conditions of the schoolhouse and grounds are a byword and a reproach. In many rural districts of some of the states there are, according to reports, no toilet accommodations of any kind. In other instances when they do exist they constitute nuisances which common decency should put a stop to. In about twelve states the boards of health control the sanitation of all public buildings to some degree, including school buildings. In Ohio:

“The state board of health shall abate all nuisances and may remove or correct all conditions detrimental to health or well-being found upon school property by serving an order on the board of education, school board, or other person responsible for such property, for the abatement of such nuisance or condition within a reasonable but fixed time. A person failing to comply with such order, unless good or sufficient reason therefor is shown, shall be fined not to exceed one hundred dollars. The board may appoint such number of inspectors of schools and school buildings as it deems necessary to properly carry out these provisions.”¹

Keeping the Floors Clean. In one of the states all

¹ School Laws of Ohio, 1915, p. 187.

floors, except hardwood or tile must be oiled twice a year, and three times if the school is in session for nine months. Another requires that floors be treated with some antiseptic dressing approved by the state as often as may be needed to keep down the dust, and they are to be scrubbed before each treatment. Statute requirements in regard to cleaning the floors are usually low, a few states providing that all schoolhouses shall be cleaned and disinfected before the opening of each school year. Certain states require that chalk dust shall be removed daily, floors shall be swept daily after dismissal, and windows thrown open to air the room. Dusting is recommended after the dust is settled, perhaps not until morning, all desks, wainscoting, window sills, and blackboards to be wiped with an oiled cloth; some states require a disinfectant solution. Dry sweeping is expressly forbidden in some of the states, the best practice requiring preparation of the floor with sawdust saturated with a disinfectant solution. Since 1913 one of the states requires a vacuum cleaner for each school.¹

Cleaning Standards. A questionnaire investigation made by the Russell Sage Foundation in 1911 brought out the cleaning standards of American cities. Of 758 cities reporting, in one the *floors were washed* daily, in 36 weekly, in 135 monthly, in 57 once a year, in 44 never; in 574 of the cities the *floors were swept* daily, in 6 weekly, in 2 monthly, in 10 as needed; in 1 city the *windows were washed* daily, in 22 weekly, in 117 monthly, in 31 once a year, in 139 as needed, in 5 never.

In one of the states the board of health has set the following standard for sweeping and washing floors:

¹ Bulletin No. 21, 1915, U. S. Bureau of Education.

“All floors must be thoroughly swept, or cleaned, each day, either after the close of the school in the afternoon, or one hour before the opening of the school in the morning. Before sweeping is started the floors must be sprinkled with moist sawdust or other substance so as to prevent the raising of dust. (The floors in all schoolrooms and halls should be thoroughly scrubbed with soap and water at least once each month.)”

Disinfection. It is a good rule of sanitation that buildings should be so cleansed that disinfectants and deodorants are not needed. Inside toilet rooms should be built of impervious and smooth materials so that the hose can be turned daily with good effect on the walls and floors. It is not a good sign when plumbing fixtures need deodorizing; ventilation and flushing should accomplish all that is necessary in this direction. Outdoor closets, however, must always be regularly disinfected and deodorized. Besides the periodical cleaning already recommended, the building should receive a thorough going over during vacation time or before school reopens. Walls and floors should then be washed with hot water and soap, and there should be disinfection of the classrooms, the warm air flues, and the fresh air receiving chambers. A widely used agent of disinfection is formalin—a forty per cent solution of formaldehyde.

Practice of Personal Hygiene. Ideals of cleanliness should of course find their final expression in personal hygiene in the school. Pupils with good home training should not be exposed to the influence of a school that is without the proper standards. Only the best standards should prevail for the sake of all the children no matter where they live. There must always be provided a place where the

children can wash and keep their faces and hands clean. It should be the rule that always on returning from the toilet the hands should be washed and always before taking food. Towels, pencils, etc.,—all things that are carried to the mouth should be unexchangeable individual possessions. All personal belongings should be kept clean. Instruction in the grades on the importance of clean teeth, nails, hair, ears, clothing, on the use of the handkerchief, on bathing, to be found in the excellent books now to be had on the subject, is clearly valueless unless its results are practical.

Health Monitors. A large part of the work in sanitation including ventilation may be made applied science by appointing health monitors or officers from among the students in the higher grades, each to serve a month or two weeks either in his own room or in a room where the children are too young to engage in such work, and this to be a part of the required course in physiology and hygiene. The thermometer may be read at stated intervals and from the record a graphic chart or curve may be constructed on a reserved space on the board, and other conditions of ventilation may be noted and a record kept. The monitor may adjust the windows for a periodic flushing of the room with fresh air from the outside, a practice that is recommended by the best authorities even with the most complete mechanical ventilating system in use.

Credit for the Good Appearance of School and Grounds. While the teacher must take the initiative, and then the monitors, the good order and appearance of the school and grounds requires the coöperation of all the children and the credit for whatever is achieved belongs to

the whole school. All the children must feel that they share in the responsibility for keeping the school property and premises free from litter, dirt, and refuse, for keeping things in order and everything in its place, for care of property, and general appearances of cleanliness. Any one who litters the floor, the yard, or the walks with paper should be required to pick up what he has thrown down. Civic pride in the good appearance of "our town" may well begin with the pupils in their relation to the schoolhouse and grounds.

CHAPTER X

ARE ALL CHILDREN ALIKE?

Summary of Preceding Chapters. We have considered the values and aims of education, the various sources of support, the school expense, getting the children into school and keeping them there for a reasonable time. Since we compel attendance we are obliged to have a regard for health and comfort in buildings and grounds, and their ventilation and sanitation. We now come to study the immediate object of all this preparation and expense — the children themselves.

Classification of Children. In order to approach the various problems of the school in an intelligent way, it is helpful to consider the various classes of children that may be found in school groups. In the olden time a child who did not learn was thought to be willful and stubborn and recourse was often had to the rod to break its rebellious spirit. Teachers are now more thoughtful and they approach the problems of management and discipline in a tolerant and more scientific spirit. If a child does not succeed in school, granting that the teaching is all that it should be, it may be by reason of native incapacity, illness, or home environment. In this chapter will be considered the different grades of mentality, the influences of the home, and conditions of the environment that account for

different types of children. Differences due to illness and physical defects will be reserved for separate chapters.

Number of Feeble-minded. According to estimates of investigators the number of feeble-minded children of school age in the United States averages between 1 and 2 per cent. This would indicate that there are not less than a total of 200,000. The report of the U. S. Commissioner of Education for the year 1916 gives the total number in institutions and special day schools as 37,630. The term "feeble-minded" is one of general description. For the purpose of classification three grades are distinguished:

Grades of Feeble-minded:

Idiots—those so deeply defective that their mental development does not exceed that of a normal child of about 2 years.

Imbeciles—those whose development is higher than that of an idiot, but does not exceed that of a normal child of about 7 years.

Morons—those whose mental development is above that of an imbecile, but does not exceed that of a normal child of about 12 years.¹

Each of these is further subdivided into three grades: low, middle, and high. A low grade idiot, for example, would be known at once, from mere observation, to be too feeble to attend school. Nor would a scientific equipment be necessary to determine the incapacity of a high grade of the same class. Under certain circumstances the other types would not be readily distinguished, and it would certainly require special tests to ascertain the place in the scale of mentality that any of them would occupy. But the teacher who is in daily contact with her pupils would in

¹ Classification adopted, 1910, Amer. Assoc. for Study of the Feeble-minded.

time surely discover those who are incapable of advancement. In districts where no provision is made for the examination of such children and for their segregation in schools especially organized for them, they may come to be a serious problem and the cause of much misdirected and wasted effort.

The Backward Type. In the public schools those who are *exceptionally retarded* are grouped together in the same class, if there are enough to make it worth while, and among these are found the high grade feeble-minded. They are all described as the "backward" type. But there is this distinction to be made: while all feeble-minded are retarded, not all retarded children are feeble-minded. Children may be exceptionally retarded through late entrance to school, through prolonged illness, and for other reasons. But when children are left far behind for no apparent cause they represent border line cases, if they are not actually feeble-minded. The backward type are those who are three or more years behind their normal grade. Some authorities prefer to make the distinguishing mark four or more years behind the normal grade. A test by Goddard of 1547 children of the first six grades of a small city showed 15 per cent two or three years below grade and 3.3 per cent four or more years below grade. The number of the backward type it has been estimated to be about 3 per cent of the school population, or a total in the United States of 600,000.

Difference in Proportion of Feeble-minded in Different Localities. There is evidence to show that while the average of feeble-minded and backward children is not more than 2 and 3 per cent respectively, there seems to be con-

siderable difference as to the number in different localities. In one city there were found about 1 per cent of each of these types in the number examined.¹ In another large city the number of feeble-minded went as high as 3 per cent; and in another city of 5,000 population 6 per cent of the children were retarded three or more years. In the rural schools of a county in California the number of feeble-minded was 4 per cent; in the same county in a single school with 44 pupils there were 15 feeble-minded, ten of whom came from two related families.² In one of the states a study has been made of both rural and urban school districts, with the following results:³

	Rural		Urban	
	Number examined	Number feeble-minded	Number examined	Number feeble-minded
Boys —	2,668	24	4,189	28
Girls —	2,832	17	4,036	24

The survey covered a small number of counties. The variation in per cent of feeble-minded found in the rural districts was from none to 3.5 per cent for boys and from none to 1.2 per cent for girls. In the urban districts the range was: boys from 0.46 to 1.1 per cent; girls from 0.26 to 1 per cent. It seems, therefore, if these reports represent the conditions, that there are concentrations or "nests" of feeble-minded persons in certain sections of the population.

¹ Haines: "The Feeble-minded Situation in Ohio." Ohio Bull. Char. and Cor., Feb., 1917.

² Terman: "Feeble-minded Children in the Public Schools of California," School and Society, Vol. V., Feb. 10, 1917.

³ Treadway: "The Feeble-minded, their Prevalence and Needs in School Population of Arkansas." U. S. Health Service, 1916.

Training of Feeble-minded. The training of which feeble-minded children are capable is extremely limited. They are incapable of development; there is no cure for a deficiency of this kind. In the special schools to which they are sent the training given them is chiefly hand work. Within the limits of their psychological age they may be trained as helpers in certain activities where they may be under constant supervision and guidance. A moron may, by proper training, be made capable of self-support in certain lines of work. But in certain ways a person of this type when at large may be a positive menace to society; because the deficiency of mind is not apparent, and such a person may have the physical appearance and vigor, the desires and instincts of those who are normal, and may continue the type.

The Moral Imbecile. Imbecility may take a moral as well as a mental direction. When a child is utterly incorrigible, it becomes a question whether it is not also mentally defective. The moral delinquency may take one form or another; a child may manifest a mania for stealing, for immodest behavior, for falsehood, or it may seem to be obsessed with uncontrollable desires of any other kind incompatible with social decency. Here again we come to a border line, that between moral imbecility and actual lunacy. As adults such children would be regarded as responsible criminals or they would be adjudged insane. Manifestations¹ of extreme cruelty to domestic animals and to other children, extreme obstinacy, outbreaks of ungovernable tem-

¹ Winslow: "The Insanity of Passion and Crime." See Chapter on "Tragedy of Early Mental Collapse," p. 247 ff. Ouseley and Son, London, 1912.

per and violent language, obscenity, arson, and inability to do any work, are among the marks of the mentally unbalanced. In the feeble-minded, development of the nervous structures is arrested in all directions; in the insane, certain of the structures are broken down and do not function. In the one the will is impotent, in the other it is strong but beyond control. But insanity is so rarely found in children that it is of professional interest to the alienist rather than the teacher. In 21,333 cases of this malady, Winslow found only 8 under ten years of age; there were 11, 161 between the ages of 10 and 20.

Retardants and Accelerants. Besides the classes of children already enumerated — the feeble-minded of various grades, the backward or exceptionally retarded, and the moral imbecile — there remain to be considered the moderately retarded, two years or less; the largest group of those who are just at age and not at all retarded; and finally the relatively few who are under age for the grade to which they belong, sometimes called the accelerants or especially gifted.

In a recent study of retardation and acceleration in 227 towns and cities of the state of Michigan with an enrollment of 223,000 pupils, including towns of less than 2,000 inhabitants as well as the large cities, it was found that the proportion of those "under-age," "at age," and "over age" in the school grades was as follows:¹

Under age			At age		Over age			
2 yrs.	1 yr.	Total			1 yr.	2 yrs.	3 yrs.	Total
.2	6.3	6.5 per cent.	69.5 per cent.		14.5	6.0	3.5	24.0

¹ Berry: "A Study of Retardation, Acceleration, Elimination, and

It is to be understood that "over age" is not necessarily equivalent to dullness, nor does "under age" always mean exceptional ability; for the first may be due to late entrance and the second to early entrance upon school work and keeping to grade in both cases. Under these conditions the children make normal advancement like those "at age" and present no problem to the teacher, unless in the case of those "over age" the difference between them and their classmates is so great as to make them conscious of it and cause them embarrassment.

It is, however, also to be remembered that the significance of retardation depends on the part of the school career in which it occurs. In general, when it occurs below the fourth grade and is not due to continued absence, it is to be interpreted as closely related to mental deficiency; but when a child keeps up to grade for four years of school life and then falls behind, we should expect to find the cause in waywardness of character, unfavorable home conditions, or faulty teaching.

For teachers the matter of chief importance is not so much, therefore, whether a child is over age. This may be due to circumstances over which the teacher has no control. And she is not responsible for the status of the pupils when they come to her for the first time. It must be her chief concern that while they are with her they do not fall behind but are prepared to go on at the end of the term to the next grade without a handicap. Skill in teaching and management shows in reduced retardation and increased acceleration, in rousing the slow out of their mental lethargy

"Repetition" in the Public Elementary Schools of Michigan, Ann Arbor, 1916.

and stimulating the self-satisfied so as to increase their pace through the school years, while at the same time the best standards of scholarship are constantly maintained.

Except in the case of the feeble-minded, the proportions of retarded and accelerated children in the schools as published are not fateful and unchangeable. There should be a large number of those who skip grades and a smaller number of those who fall behind. There is not much doubt among schoolmen that the pupils who could advance more rapidly than they now do are much neglected. Too little effort is made to discover them and give full employment to their somewhat exceptional powers. They may be provided for in various ways. They may be promoted to a higher grade whenever they show they are capable of the more advanced work or they may be promoted in those subjects in which they manifest superior ability. Some of the cities have special classes for them as well as for those who are much retarded. If promotion is not possible at the time, they may be given more advanced work in the grade to which they belong.

Retardation may be reduced by superior teaching. It might also be reduced somewhat by increasing the number of opportunities in which excellence is recognized. Under the present organization superiority is measured largely by what the pupils can do with books. Retarded pupils show in many cases that they learn more rapidly through experience with things. And teachers are prone to forget that the objective world is a proper educational field, that curricula existed outside in the experience of man before they were systematized in books. While the newer type of schools does not belittle the use of books and magnify the

work of the hand, it gives more weight to the use of things for educational purposes than the traditional school.

Every teacher should bear in mind, therefore, that a class may divide itself into three groups of children: the slow, the bright, and a relatively large number who are of average capacity. A wise management will require plans for lessons and activities that take some account of the differences between these groups. This is an unavoidable permanent problem, when the conditions are such as to prevent close classification, and it will always test the skill of the best teachers.

Differences Between the Country and the City Environment. Another cause of differences between school children is economic and social conditions. If we include under this head the difference between the country and the city environment, there is revealed at once a number of characteristics that distinguish the two largest bodies of school children. The country child has a more limited social environment. He is brought in closer contact with natural processes. Long distances and the state of the weather often delay the gratification of passing desires. In the country one learns patience to wait for the realization of things long hoped for. On the farm pay days do not come so often as in the city and the purchase of supplies waits for the gathering of the harvests. The country child also sees the slow process of growth and soon gains an idea of the chain of cause and effect in its relation to a final product. He knows the meaning of milk, beef, and grain in all their antecedent relations.

This kind of life has its inevitable psychic effect. The country child is often alone and is not the victim of all

sorts of distractions. Habits of attention are acquired that distinguish him from the child of the crowded city. He becomes capable of greater concentration and is relatively slow in shifting his thought from one attraction to another. Unlike the city child he is not in danger of overstimulation. There is likely to be too limited an amount of educative material in the way of books and pictures for a proper extension of his mental horizon.

On the other hand, the child living in the crowded sections of a large city has acquired the habit of shifting interests and attention. In his environment, appeals to the different senses come in a constant stream. He lives in the midst of alarms. When he awakes, when he goes to school, when he tries to recite, when he goes to sleep, the clamor of the street pours into his ears. The country child in comparison lives in silence and solitude. The city child knows little of the patience of waiting. The supply of all his wants is in all the markets and stores, ready to wear or use or consume. Unless the experience comes to him in the constructive work of the school he seldom learns to know things as unitary wholes. Of the milk and grain industry he comes to know only the final part and of its economics the last transaction. What he knows of industry develops before his eyes in the moving picture; the industrial process of a week he takes in during an hour. Amid all his distractions he seeks new novelties and new thrills; his jaded nerves demand fresh stimuli to preserve in him the consciousness of reality.

In addition to all this, for the city child danger lurks everywhere. When he goes out of the house, safety for life and limb develops the habit of caution. When he crosses

the street he must look out for the cars and autos and at the same time see where he is going. He must beware of elevator shafts, manholes, and live wires. He is ever on the lookout for amusement and to escape the meshes of his complex surroundings.

But the city experience has its peculiar values. The important point is to appreciate the difference in habits of mind between these two types of children. In the one for the limited range of the field of attention, the compensation is concentration and steadiness. In the other, for the tendency to be superficial, the compensation is a wide distribution of attention and an alert response to the environment. The country's limited social atmosphere begets a subjective tendency and a strong sense of individuality, while life in a large community tends to develop the social nature and bring the child in touch with world-wide interests.

Difference in Economic and Social Conditions. It is indispensable to the wise management of a school that children should be further classified. It has been found, as has been stated in another chapter, that most of the troubles of non-attendance and juvenile delinquency are traceable to the economic and moral conditions of the home. It is necessary to know something of the home life of the children in order to appreciate their social situation even if a needed change cannot be made. In the city particularly, we have, classifying roughly, the children of the desperately poor, those of the middle class, and those of very well-to-do parents.

While there are exceptions to the rule, teachers of experience tell us that the children of the middle class are usually the ambitious and aspiring kind whose parents give

intelligent support to the school. In the homes where everything is provided in great abundance and the economic situation is perfectly secure, the children are sometimes, by no means always, the victims of too much attention with too great a variety of passive interests. In school the teacher may find that they expect to be amused and entertained, have a wandering attention, and lack initiative for study and have no power of attack. They have had the advantage of travel with their parents and their experience in the real world has been so wide and varied that matters of interest and wonder to the ordinary child do not appeal to them. This class presents a difficult problem of management, but it usually falls to the private rather than the public school. When ordinary appeals fail it is often found that constructive work forms a center of interest for them, and this may be correlated with certain of the fundamental studies of the curriculum.

The Problem of the Bad Environment. It is the children of the hopelessly poor that present the most acute problems. These children live in the congested districts of our large cities. They are poorly housed, poorly fed, scantily and poorly clothed. At home they live in an atmosphere of despair. The parents have given up the fight for comfort and respectability and are resigned to their fate. They long since gave up cherished ideals. They snatch at the pleasure of the moment as it may happen to come their way. They exploit, it may be, the labor and innocence of their children. They move frequently from one place to another. And even though they have a local habitation, their children are ever on the move; the street is more comfortable and certainly more cheerful than the home as they know it.

They subsist on a diet irregular and unbalanced, of low nutritive value; they get an insufficient amount of sleep; they live in close, unsanitary quarters. While the schoolroom is the best place they ever know, they come there in a condition of low vitality, for less than six hours a day, so that on the mental side they represent the extreme type of fitful inattention and often a dullness so impenetrable that it is hardly to be distinguished from absolute feeble-mindedness.

Types of Moral Delinquents. On the moral side of their nature, children of this class may be, it has been said, of two general types. The passive type are easily impressed with their vicious surroundings. They contract the habits of their parents when very young and sooner or later become acquainted with crimes against property and the grosser social delinquencies. They readily succumb to the temptations of the street. The other is the aggressive type whose delight in adventure makes them at times vagrants and on occasion bold criminals.

Moral Influence of the School. But these children have to go to school. The teacher is the only good angel that has ever come into their lives. With intelligence and sympathy she may exert an influence upon them which may mean new ideals of character that will always remain with them. Much may be done to improve economic conditions through coöperation with social agencies. However, the teacher, if she looks upon her work as a mere routine of class management without the broader vision of the whole school situation, which includes a study of the home relations, will make little or no change for the better.

The first eight or nine years of a child's life is a formative period of tremendous importance. Tendencies of a social

and moral kind strike deep roots at that time. The kindergarten and lower grades of the school need to employ social and moral motivations as much at least as any other kind, particularly where the home cannot be depended upon for training of this kind. In the years that follow up to 12 or 13 the delinquencies are usually of the individualistic type. As this is the time of habit formation, a repetition of offenses tends to make them habitual, perhaps for life. In the period that follows up to about 17 come the emotional disturbances that are connected with the storm and stress of adolescence. Sometimes the sharp conflict of instincts brings about pathological conditions or some instinct through strong pressure becomes dominant and leads for a time to excesses of one kind or another. Here the desire for social pleasures and comradeship may lead to immorality. To promote a counter tendency to these influences the school can do the following: it can absorb the attention of the child in athletic games, in interesting hand-work, or in dramatics — any or all of these to keep the mind fully occupied; it can induce ideals of cleanliness beginning with bathing and a clean body and clean clothes; it can arouse admiration for the great and good and detestation for the mean and base through reading and the drama; it can awaken the sense of self-respect by making the child feel that he shares responsibilities with others and that his teacher and his associates have confidence in him.

The State's Guardianship. In the majority of the states the age of full moral responsibility is sixteen years. In some the limit is seventeen and in a few it has been made eighteen. There are three forms of legal definition for the wayward and neglected. They are essentially as follows:

Dependent child means any child under eighteen years of age who is dependent on the public for support; or who is destitute, homeless, or abandoned; or who has not proper parental care or guardianship; or who begs or receives alms; or who is given away or disposed of in any employment, service, exhibition, occupation, or vocation contrary to the law of the state; who is found living with vicious or disreputable persons or whose homes by reason of neglect, cruelty, or depravity on the part of the parent or person in whose care it may be, is an unfit place for such a child; or who is prevented from receiving proper education because of the conduct or neglect of its parents or other person; or whose environment is such as to warrant the state, in the interest of the child in assuming its guardianship.

A child *without proper parental care* is one whose parents or guardian permit it to use or become addicted to tobacco, intoxicating liquors, or any injurious drug, or whose parents permit it in or about a saloon, gambling house, or a house of ill repute.

Failure to support, or neglect of child is punishable by a fine of not less than ten dollars nor more than five hundred, or imprisonment not less than ten days nor more than a year, or both fine and imprisonment.

A *delinquent child* is one under eighteen years of age (1) who violates a law of the state, of a city or village ordinance; (2) who is incorrigible (that is, whose parents have no control over him and cannot prevent what in the preceding descriptions a parent or guardian is not permitted by law to allow a child to do); (3) who knowingly visits a gambling house or place where intoxicating liquors are sold or a public pool or billiard room; (4) who wanders about the street in the night time; (5) who wanders about railroad yards or tracks or jumps or catches on to a moving train, traction, or street car, or enters a car or engine without lawful authority; (6) who uses obscene or profane language; (7) who is guilty of immoral conduct; (8) who uses cigarets, or cigars, or tobacco, or injurious drugs; (9) who visits any theater or moving picture show where lewd exhibitions or performances are displayed; (10) who is an habitual truant.

A juvenile disorderly person is a child of the age in which

school attendance is compulsory, whose parents prove inability to cause and compel school attendance. This is a form of delinquency. If under ten years, the child is committed to a children's home; if older, to a house of refuge.

Any person having knowledge of a minor under the age of eighteen who appears to be either a delinquent, neglected, or dependent child, may file a complaint "upon information and belief" with a juvenile court or any other court having the necessary powers and jurisdiction.

It is also important to know that delinquency laws have been supplemented in many states by providing for the punishment by fine or imprisonment or both of any person who aids, abets, induces, causes, encourages, or contributes toward the delinquency, neglect or dependency of a minor, or acts in any way tending to cause delinquency in such minor.

Summary. The children that come to school differ in mentality, in moral sense, in the habits of mind acquired by their environment, they differ in the rate of progress they are capable of making in their school work, they differ in the effect home conditions have upon their mental and moral character. It may be said that every one knows that these conditions exist. But it is a common fault of teachers, especially beginners in the work, to have rigid views of discipline which are suited only to the average child and which assume that children are as uniform in character as justice is universal. The average child has only a theoretical existence. The actual child of the schoolroom is the real problem of discipline. Fortunately, however, the larger number of children in a schoolroom as a rule cause little trouble and make teaching easy and pleasant. The problems come in the case of the relatively small per cent who

loiter along the path of knowledge and those who are likely to become demoralized by slow progress. The greater problems come when the teacher must struggle alone against the willful ignorance of the child supported by the powers of evil in the home, where conditions may become so bad that the state itself steps in to save the child from himself or from those who would neglect or exploit him.

CHAPTER XI

THE PUBLIC SCHOOL AND THE PUBLIC HEALTH

The State's Responsibility. Since compulsory attendance laws have been placed on the statute books in the various states, all the children of all the people are now required to go to school. It is the state's responsibility to provide suitable buildings and grounds and to make the living conditions at the school satisfy the best standards of sanitation. It must go further and guard the children against infection from communicable disease. The school must have its own means of knowing whether a child is ill or not. The parent's word is not final as to whether a child is too ill to attend or has recovered sufficiently to return to school. For certain proof of this the teacher will depend on a physician's certificate or on the diagnosis by the medical inspector. However, as regards the illness of individual children, the teacher who is with them all day may be the first to discover the symptoms, whether the school has a system of medical inspection or not.

The State's Opportunity. But the school is also the state's opportunity. It is a means of instructing the public in the prevention of disease. This is, of course, an interest of the state that transcends all others, as all others depend on it. And the example of sanitation and the practice of

hygiene in the school will afford instruction all the more effective because in school where the many are housed the standards must necessarily be higher than in the home.

Health Service. But as the teacher cannot be depended upon for a final decision in regard to cases of illness, and because the problem becomes a large one where children congregate in large numbers, the large cities and many states have organized a health service for the schools. In seven states the law on medical inspection is mandatory, in ten it is permissive. In some of the states the board of health instead of the board of education exercises the final authority. The statutes of Ohio are permissive, allowing every board of education to appoint at least one school physician; two or more districts may unite and appoint one such physician. Such boards may also employ trained nurses to assist the school physicians in making examinations of all children referred to them, at the beginning of every school year and at other times if deemed desirable. Besides, they may make examinations of teachers, janitors, and school buildings as in their opinion the protection of the health of the pupils and teachers may require. If any teacher or janitor is found to have positive open pulmonary tuberculosis or any other communicable disease, his or her employment shall be discontinued upon the expiration of the contract therefor, or, at the option of the board, suspended upon such terms as to salary as the board may deem just until the school physician shall have certified to a recovery from the disease.

In school hygiene the interests of several professions meet on common ground. The teacher is concerned from the professional point of view because illness interrupts educational progress. The physician is primarily interested in the pre-

vention of disease. The school nurse assists the physician and acts as an intermediary between the home and the school. The teacher reports on symptoms of illness observed, the physician diagnoses the cases and prescribes treatment, the nurse follows up all the cases of illness from the school to the home until recovery can be reported and until, upon re-examination by the physician, the child is permitted to return to school. The interest of boards of health lies in the fact that the school presents dangerous possibilities of spreading epidemics through the community. On the other hand, it is a convenient agency to circulate information on matters of hygiene and sanitation.

School Hygiene a Part of the Public Health Movement. School hygiene and sanitation is a part of a worldwide movement. Sanitation has reference to places and things, hygiene has reference to persons. Stated in simple form it is the purpose of each to prevent illness and premature death. Hygiene has been defined by Sedgwick as the science and art of the conservation and promotion of health both in individuals and communities. The movement transcends the bounds of nationality in its interests. No nation can in these days look with indifference upon a neighboring people that neglects the public health.

In the course of only a few centuries, the prevention of disease, in principle and practice, has made impressive history among the foremost nations of the world. Three centuries ago the death-rate of London was 80 per 1000; now it is 15. In the 18th century before the introduction of vaccination, an average of 500,000 people died annually in Europe of small-pox alone. This disease is now almost unknown where vaccination is compulsory. Official reports

show that the death-rate in England and Wales fell from 22.6 per 1000 in 1862 to 17.9 in 1889.¹

In New York City the death-rate in 1866 was 35 per 1000; in 1914, 13.3. In the same city from the period 1868-1877 to 1913, the death-rate from diphtheria alone fell from 154 per 100,000 to 32.¹

The number of deaths from typhoid fever fell in England and Wales from 39 in 1869 to 8.9 per 100,000 in 1905. Improved methods of sanitation and anti-typhoid vaccination in the United States army have had the following results: ²

	No. of men	Cases of typhoid	Deaths
Without vaccination in Spanish War, 1898	107,973	20,738	1,580
With vaccination, army on Mexican Border, 1913	90,000	3	0

Rejections for Service in the United States Army.

From the Report of the Provost Marshal General of the First Draft under the Selective Service Act, 1917, it appears that the per cent of rejections in the draft was higher than in the average of four drafts during the Civil War. The totals of the Report give the number physically examined by local boards and the number rejected as follows:

Total physically examined	2,510,706	
Total rejected	730,756	29.11 per cent.
Civil war per cent of rejections		25.74

A small number, 4 per cent, of those accepted by local boards were rejected by camp surgeons. While there is

¹ Egbert: "A Manual of Hygiene and Sanitation," Philadelphia, 1910, p. 21 ff. Lea and Febiger.

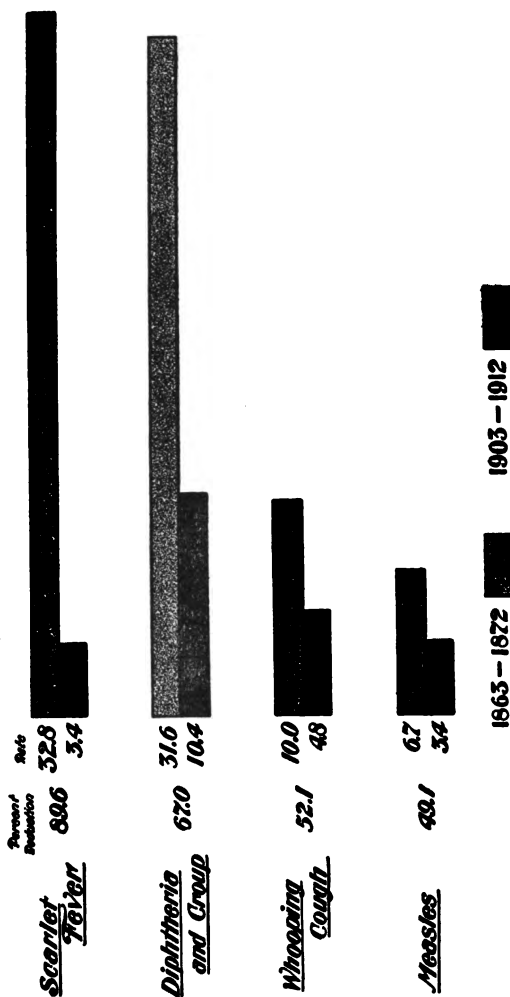
² Wood: "Sanitation Practically Applied," New York, 1917.

CHART XIII

Comparative Reduction in Mortality from Communicable Diseases

Massachusetts, 1863-1872 and 1903-1912

Deaths per 1000 Population, Ages Under 15



Original Tabulation by Statistician's Department, The Prudential Insurance Company of America.

considerable difference in the per cent of rejections, seeming to indicate a superior physical condition of American citizenship at the time of the Civil War, the Report ¹ makes the following comment:

“In view of the great advance since the Civil War in standards of medical diagnosis and physical perfection, the figures indicate a decided improvement in national physical condition during the past two generations.”

Death-rate in the United States. The death-rate in the United States for 1915 was 13.5 per 1000. Countries with a lower rate were Denmark, Holland, Australia, and New Zealand. From 1904 to 1915 the mortality from tuberculosis in the United States fell 28 per cent,² owing largely no doubt to the active campaign that has been conducted against the disease.

Infant Mortality. Although reduced to 95 per 1000 under the age of one year in the statistics for 1912, the death-rate of infants is still very high. Out of a total mortality of 128,136 in New York City in the three years from 1890–1892, the following are the proportions with respect to age:

Under 1 yr.	1–2 yrs.	2–5 yrs.	5–15 yrs.	Over 15 yrs.
26	8	7	5	54 per cent

In England 85,000 children died in 1916 within nine months after birth. The Minister of Education declared that the roll of infant casualties for that year equaled the roll of casualties in one of the greatest and most protracted battles

¹ Report of the Provost Marshal General of the First Draft under the Selective Service Act, 1917, p. 44–45.

² Bulletin issued by the Census Bureau, Department of the Interior, 1916.

of the Great War. The rate was 105 per thousand, and it was said, "It is more dangerous to be a baby in England than a soldier in France."

The Duration of Life. Infant mortality is greater than it need be in all the countries of the world. If a reasonable number of deaths due to infantile diseases could be prevented by insistence on pure milk, fresh air, pure water, and reasonable measures of safety, eight years could be added to the average duration of life in the United States.¹ This for the United States and England is 45 years, while for Sweden and Denmark, for example, it is 5 years higher. In India it is only 25 years. In America many lives are annually sacrificed to preventable diseases, and to the mania for rapid motion.

Money Cost of Disease in the United States. It is estimated that tuberculosis alone costs the nation \$1,000,000,000; typhoid fever, \$300,000,000. In round numbers, there are in this country 3,000,000 persons constantly incapacitated on account of sickness.

The Warfare Against Communicable Disease. The Massachusetts Registration Report gives the number of death-causing varieties of disease under the following heads:

	No.
I Zymotic diseases (Fever, etc.)	32
II Constitutional diseases (Cancer, gout, dropsy, etc.)	10
III Local diseases (Apoplexy, heart disease, etc.)	48
IV Developmental diseases (Old age, teething, etc.)	10
V Violence from without	14

¹ Fisher: Report on "National Vitality, Its Waste and Conservation," 1909; Memorial to the U. S. Senate on Conservation, Congressional Record, 1912.

They may be classified into constitutional and environmental or intrinsic and extrinsic.¹ A late and convenient classification for our purpose places the different diseases under two heads: Communicable and Non-communicable.² Counting the communicable type as equivalent to the zymotic, or "fermentative," there are, then, 32 death-causing varieties of this type of diseases.

Economy of Prevention. Both teachers and pupils need to study the behavior of the micro-organisms that cause these diseases in order to learn how to prevent them. All the trouble or expense it may take to escape them is a vast economy. An enlightened civic responsibility that would guard even without legal restraint against the possibility of transmitting them is also a proper goal for school instruction. Prevention at whatever expense is the great strategy. "The public health is purchasable; within natural limitations a community can determine its own death rate."

School Diseases. The diseases which might possibly break out in a school are enumerated in the rules of the Wisconsin State Board of Health, which do not permit

"the attendance in private, parochial, or public school of any pupil afflicted with a severe cough, a severe cold, itch, lice, or other vermin, or any contagious skin disease, or who is filthy in body or clothing, or who has the following dangerous, contagious or infectious diseases, to wit: Diphtheria, small-pox, scarlet fever, measles, whooping-cough, chicken-pox, mumps, pulmonary tuberculosis, Asiatic cholera, yellow fever, typhus fever, bubonic plague, cerebro-spinal meningitis, or acute poliomyelitis. The teachers in all schools shall without delay send home any pupil who is obviously

¹ Sedgwick: "Principles of Sanitary Science and the Public Health," New York, 1914, p. 8, The Macmillan Company.

² Rosenau: "Preventive Medicine and Hygiene," *op. cit.*, p. 336.

sick even if the ailment is unknown, and the teacher shall inform the parents or guardians of the pupil and also the local health officer as soon as possible, and the officer shall examine into the case and take such action as is reasonable and necessary for the benefit of the pupils and to prevent the spread of infection."

The last few of the diseases named are comparatively rare and teachers are not prepared to recognize their specific symptoms. Asiatic cholera, bubonic plague, typhus fever are almost unknown in America as strict enforcement of quarantine regulations at ports of entry have kept them from our shores. Tuberculosis is sometimes latent in children, difficult to diagnose, and hardly distinguishable from anæmia. It is, generally, anæmic children that are classed as pretuberculous and they are best cared for in open air schools. Yellow fever which took by death one in every ten of the inhabitants of Philadelphia in 1793 has been wiped out even in southern cities where it was of common recurrence, through the discovery in 1900, that a species of mosquito was the carrier that caused the disease. Small-pox is very rare and not dangerous wherever the law on compulsory vaccination is strictly enforced. The principal communicable diseases of the school that remain for us to wage war against and exterminate are diphtheria, scarlet-fever, measles, whooping-cough, chicken-pox, and mumps. These are the chief, not forgetting, however, that certain skin and eye diseases and influenza also assume considerable importance at times.

What are Bacteria? The beginning of success in the fight against communicable disease dates from the time belief in spontaneous generation was abandoned and scientists began to study the forms of life which were associated

with these ailments. These were at first regarded as little animals (animalcules) and the name germ was applied to them under the mistaken conception. That they are plant organisms is a comparatively recent discovery. Now the authorized general name is bacterium, of which there are two kinds: pathogenic, those causing disease, and non-pathogenic, those that do not. We are concerned here with only the former. They are minute forms, some spherical and others elongated, varying in length from a fraction of a micro-millimeter to 40 micro-millimeters, a micro-millimeter being one twenty-five thousandth part of an inch. They are unicellular organisms and belong to the division of flowerless plants, being classed as fungi and related to the molds, mildews, puffballs, mushrooms, etc.

They reproduce their kind by the method of fission, the cell dividing to become two cells, and by the generation of spores. It has been estimated that a single "germ" can produce by simple fission two of its kind in an hour. In three days there would be so many that they could hardly be counted.

An Instructive Parallel. One of the most important events in the history of medical science was the discovery of the parallel between the process of fermentation and the course of a communicable disease. It was known that if any fruit juice was left exposed to the air fermentation would soon begin. Then it would "work," that is, it would show disturbances on account of the generation of gases. This was followed by a period of quiescence and then the change would become complete, alcohol having taken the place of the sugar content. After this there was no change. It would now "keep." In the same way there

are five steps in the course of a communicable disease: 1. Exposure, infection takes place. 2. A period of quiescence, incubation. 3. The active stage of the disease. 4. Convalescence, or death. 5. No further change, immunity. Immunity may be total, the disease will not return at all, or temporary, it will not soon return, or partial, it will return only in a mild form.¹

Discovery of Specific Germs. Since these micro-organisms were of the plant world a study of their growth was a sort of horticulture. The name "cultures" was therefore given to groups of them isolated for study. In 1839 it was discovered that yeast is a parasitic fungus and that *favus* of the human scalp is a parasitic fungus growth at the roots of the hair. In 1876 it was proved that in the case of anthrax, bacteria were the cause of the disease. In the early eighties Pasteur made a public demonstration of his brilliant discoveries in splenic fever which affects cattle and sheep. In 1882 the bacillus of tuberculosis and in the following year that of Asiatic cholera were discovered by Koch. Other scientists isolated the bacilli of diphtheria and tetanus in 1884.

Where Bacteria Thrive. Bacteria that cause disease are to be found wherever man, animals, and plants live, die, and decompose. If found in the air it is not far usually from their chief food supply. There are none at the top of the Alps, the higher the altitude the fewer there are. They are to be found in the soil but not deeper down than about a meter. If they are in the air it is due to scattering along with the dust. Notwithstanding the fact

¹ Sedgwick: "Principles of Sanitary Science and Public Health," *op. cit.*, p. 39.

that bacteria are all about us, the body-juices and tissues of normal animals are free from them. When they are transferred from without and into the blood and the tissues, they set up a condition of disease.

How Bacteria Get into the Blood. Again fermentation in the case of fruit may serve to illustrate. Peaches, plums, apples, etc., decay when their covering is pierced. The skin on the fruit is bacteria-proof. As soon as it is bruised or punctured so that the skin is broken the infection begins and spreads until the whole fruit undergoes a change. Similarly the skin of the outside of the human body and the epithelial structures or cellular coverings of the cavities and canals within are to a certain extent protective. Those epithelia in which absorption and secretion take place are not protective to the same degree as the outer covering, the skin, but in normal conditions they are provided with certain means of protection.

When the skin is pierced by a nail, a pin, a splinter, the bacterial infection is carried in by means of these penetrating bodies. An antiseptic preparation is often used after such an accident to cleanse the wound, not to keep infection from the air out of the wound. When a foreign body pierces the skin the infection is at first local and later may become general so as to involve finally the whole body and in this form is often fatal and known as "blood-poisoning." Any foreign body penetrating the skin may bring bacteria. It may be through bullets, knives, daggers, or through the sting of insects or the bite of serpents.

Other modes of infection are through the delicate lining of the cavities in the mouth, nose, throat, lungs, and digestive and genito-urinary tracts. Under certain circum-

stances these structures become susceptible to infection through a weakening of the tissues; in this case bacteria instead of nutrient elements are absorbed and thus gain an entrance into the blood. In diphtheria the bacilli of the disease find lodgment on the tissues of the throat. As they feed and multiply the normal activity of the cells is gradually weakened, lymph exudes, "white patches" form, and the powerful toxin is absorbed into the blood. In similar ways the bacilli of Asiatic cholera attack the large and small intestine and those of typhoid fever, the small intestine. The bacillus of tuberculosis usually prefers the epithelial tissue of the lungs.

Modes of Transmission. Communicable diseases are to be further classified as intestinal, eruptive, and respiratory. Of the first class are cholera, dysentery, and typhoid fever. In this kind of disease the solid and liquid excreta of the body are the sources of infection. Of the second class are scarlet fever, measles, small-pox, etc. In these, pustules form on the skin which in time open and discharge their secretions and are sources of infection. The diseases of the respiratory tract are those which affect the mouth, nose, throat, or lungs. Diphtheria and tuberculosis belong to this group. They depend for their transmission upon the secretions ejected from the mouth or the nostrils. In all cases the infected matter may be carried to a susceptible person directly as solid matter, or in water or milk, or may dry and in pulverized form be conveyed as dust. It may be carried by animals and men not suffering from the disease. The bacilli of diphtheria have been found in the throat of well persons and such as were not at all likely to be sick with the disease. Typhoid is carried by some

patients for as much as a year after the beginning of convalescence. But the germs cannot exist long without contact with a host. It is safe to believe that they cannot remain for a long time far from man, animal, or plant without becoming much attenuated from lack of nourishment and therefore comparatively harmless.

It is generally believed now that these diseases are transmitted in almost all cases through actual contact, and when symptoms appear it is held to be of greatest importance to isolate at once the person infected and those exposed to the infection. This is of primary importance; the disinfection of books, clothing, furniture, letters, for example, is considered of secondary importance. Danger would lie only in objects the diseased person had recently handled, put into the mouth, or in some other way transferred the germs to things about the person. In order that there may be infection from the air or objects handled the material of infection must be fresh, that is, the bacteria must recently have been thrown off or ejected from a person ill with the disease. Under hospital conditions, in which supreme regard is had for cleanness, patients have been placed quite near to each other without a separating partition and without danger of infection simply because the air as such does not appear to be a carrier of disease.

Why Dust is Dangerous. But dust is dangerous and for two reasons: either as infected with microbes or in case the particles which form it are gritty they tend to lacerate the delicate lining of the throat and lungs and thus prepare the way for bacterial infection. In the air itself very few harmful bacteria could long survive. It is from dust stirred up again and again on roads where human beings and ani-

mals travel and in rooms where they live that the air becomes germ-laden. In a dust-storm five feet above the surface of a macadamized street there were detected in ten liters of air 200,000 micro-organisms. Quiet air is relatively free from them. Sewage has been found to contain 4,726,000 bacteria per cubic centimeter, but sewer air is often quite free from microbes.¹ One of the surprising facts that bacteriology has actually demonstrated is that the expired breath of the ordinary human being is practically germ free. The primary source of infection is in the solid and liquid excreta of man and animals. It is from these discharges and those from the skin that infected material gets mixed with dirt, dries, and is blown about by the wind, or it is carried by water or transferred by human contact.

To summarize, diseases may be transmitted by

1. Direct contact with the sick
2. Infection from food and drink
3. Insects, such as flies
4. Infected earth
5. Domestic animals
6. Germs adhering to clothing
7. Dust in the air

Susceptibility, Resistance, Immunity. Disease microbes usually thrive best in conditions that are most agreeable to human beings. Most of them need a certain amount of free oxygen, organic matter, and moisture in order to live. The temperature of a comfortably heated room is favorable to their growth. The direct rays of the sun and, to a less degree, the rays of the electric arc-light retard the

¹ Sedgwick: "Principles of Sanitary Science and Public Health," pp. 113, 125.

growth and in numerous cases kill bacteria. The presence of certain chemical agents such as bichloride of mercury, carbolic acid, and formaldehyde inhibit their development and are known as antiseptics.

Vital Resistance is the intermediary condition between immunity and susceptibility. The relation between vital resistance and communicable disease, it has been suggested, may be expressed in the formula, $D \text{ equals } \frac{M}{R}$ in which D represents the disease, M the micro-organism causing it, and R vital resistance of the organism attacked. The power of M depends on the *number* of M and their *virulence*, hence the formula should read $D \text{ equals } \frac{MNV}{R}$.¹ High resistance and a limited number of microbes offer one means of escape from disease; immunity offers another.

Immunity is ability to resist infection. Animals and man have a natural immunity to some bacteria. Certain animals are immune to some and not to others. Human beings in robust and healthy conditions are relatively immune to infections. When vital resistance is lowered through loss of sleep, malnutrition, or fatigue, the susceptibility to infection is increased. Immunity may be acquired by the system after it has been subjected to the course of a disease. It may be artificially induced before infection takes place as in small-pox and typhoid vaccination, or after the first few days of infection as in the case of diphtheria by means of an anti-toxin. It was Pasteur's hypothesis that if an infectious disease is really a struggle between man and the microbe it might be possible to reduce the virulence of any mi-

¹ Sedgwick: *op. cit.*, pp. 82-84.

crobe by subjecting it to an unfavorable environment and thus give man the advantage in the conflict when it comes. Heat, cold, starvation, overfeeding, suggested themselves as means of producing "attenuation" in the microbes. He finally proved by experiment that this could be done. By means of cultures of attenuated bacteria he inoculated animals and proved that they became immune to the infection of virulent bacteria of the same class.

The White Corpuscles. The theory of Metschnikoff was that the source of resistance is in the white corpuscles of the blood, that in the course of a communicable or infectious disease the struggle is between these corpuscles and the virulent microbes, and that the issue of life and death depends on which of these win in the struggle. The introduction of the weakened cultures before infection through virulent microbes of the same class gives the white corpuscles an easy victory when the conflict comes and besides induces in them a growing disposition to win out in any succeeding conflicts.¹

Serums. The use of serums as a method of cure and to produce immunity is another modern practice that should be a part of a teacher's general information on the subject of the diseases of school children. This is best illustrated and most effective in the attack that has been made upon the microbe of diphtheria. It is based on the theory that when the microbe invades the blood with its toxin a defensive substance is produced in the blood serum known as an anti-toxin.

"Microbes of diphtheria are cultivated in a richly nutrient liquid which gradually becomes charged with their toxin. The liquid is

¹ Sedgwick: *op. cit.*, pp. 82-84.

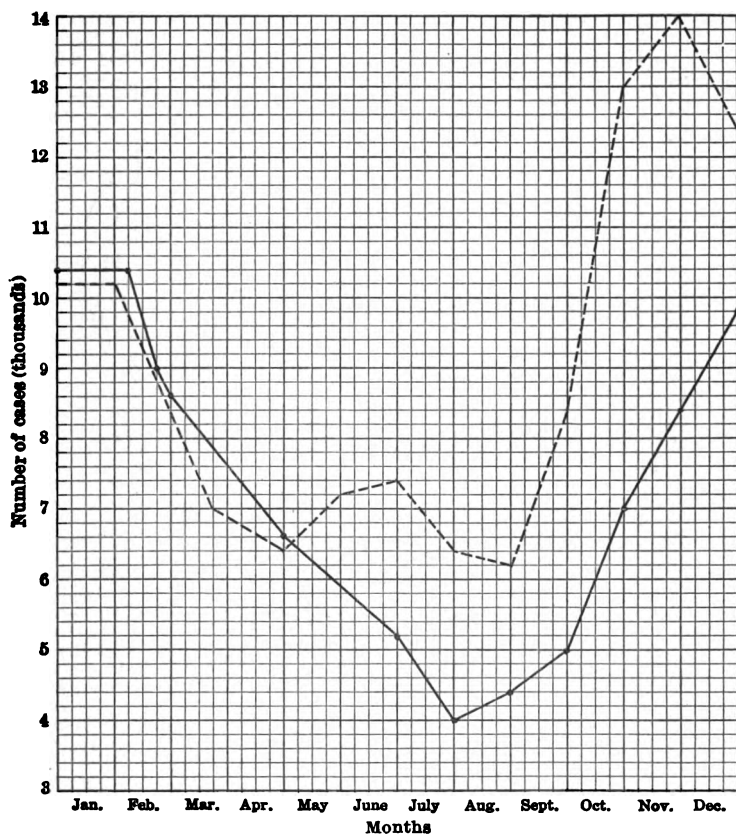
filtered, and portions of the toxin-bearing filtrate are subcutaneously injected into horses, beginning with small doses and continuing until the animal is immune to large doses. Blood is then drawn from the immune horse, and the serum from this blood is found to contain anti-toxin in abundance. This serum is carefully filtered and then used subcutaneously as a reënforcing remedy for persons actually ill with diphtheria, or as a preventive medicine by those who either may or may not have been 'exposed' to it. The results of the serum treatment have everywhere been most significant and encouraging."¹

Lowering of Vital Resistance. Conditions which cause a lowering of vital resistance are wet, cold, insufficient sleep, worry, insufficient and unsuitable food, and artificial uniform temperature. Among the chief means of increasing resistance are sunshine, regular habits, and fresh air usually to be had in the fall and winter months only outside of schoolrooms and dwelling and business houses. The relation between the prevalence of communicable diseases and closed windows is clearly indicated in the records that have been made of the incidence of these diseases for the months of the year. See Charts XIV and XV.

Seasonal Diseases. These diseases occur most frequently during the seasons of the year when children stay inside on account of the weather and in those years of their life when they have not yet formed habits of personal hygiene. Below the school age they live at home and to a certain extent in comparative seclusion. During their first years in school they mingle freely together and have a communistic attitude to personal belongings and are perfectly innocent of biological cleanliness. There is much borrowing and lending and the commerce engaged in combines in

¹ Sedgwick: *op. cit.*, p. 84.

CHART XIV

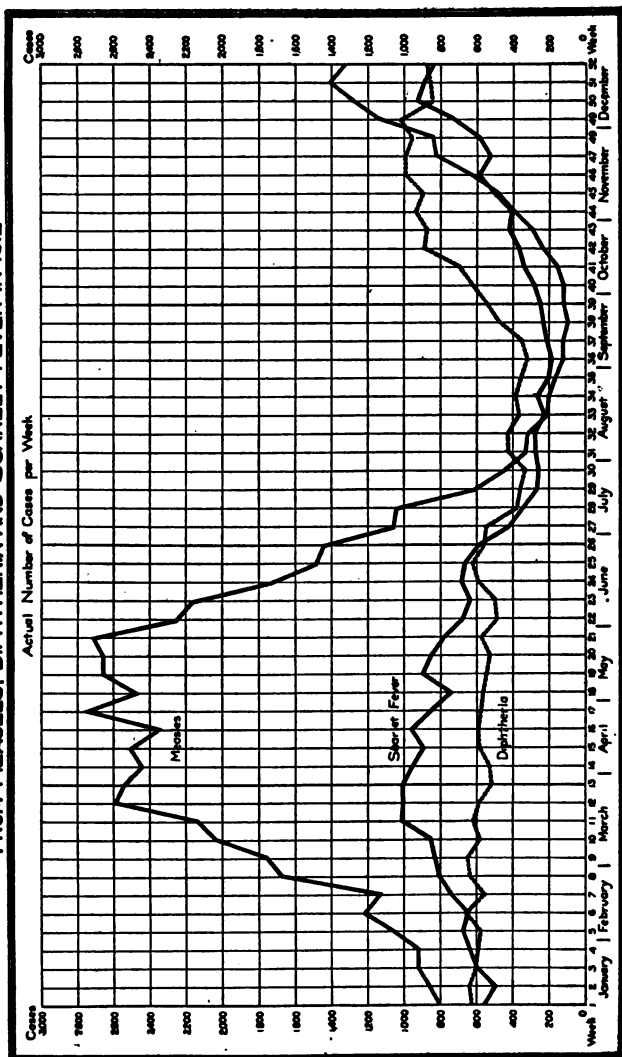


— cases of diphtheria from birth to five years of age.
 - - - cases of diphtheria from five to fourteen years of age.
 (For the years 1900-1904 in the U. S. Registration area.)
 Note increase during school months and decrease in vacation.
 (Mass. State Board of Health, *Monthly Bulletin*, Sept., 1910.)

The curves in Chart XIV show that diphtheria increases in prevalence from October to May, about the time when windows are closed and artificial systems of ventilation are in operation. That this fact holds true for other diseases as well as diphtheria is shown by the following Chart XV. It is seen here that measles show exceptional activity from December to June.

CHART XV

COMPARATIVE MORBIDITY IN 14 AMERICAN CITIES FROM MEASLES, DIPHTHERIA AND SCARLET FEVER IN 1912



Original Tabulation by Statistician's Department, The Prudential Insurance Company of America.

its scope unconsciously a free exchange of the vehicles of infection.

"All successful commerce is reciprocal and in this universal trade in human saliva the fingers not only bring foreign secretions to the mouth of their owner, but there, exchanging it for his own, distributes the latter to everything that the hand touches. This happens not once, but hundreds of times during the day's round of a child's activities."¹

Of the most important school diseases there is a serum treatment for only two, diphtheria and whooping cough. For typhoid and small-pox, vaccination has proved an agency of prevention. For all the other diseases named here, measures of hygiene and sanitation are at present the only means of prevention. When any of them makes its appearance, isolation of the sick and any others who are likely to have taken the infection is the immediate necessity. The earlier the symptoms are discovered the better. In fact, in nearly all cases when the symptoms are in the more advanced stages and unmistakable as indicating serious illness, the infection may already have been communicated. This has been true particularly of measles. It is almost impossible to discover the symptoms of this disease in time to prevent infection. The best that doctors have been able to do is to recognize its coming a few hours ahead by means of Koplik's spots — small eruptions which appear inside the cheek where the membrane rests against the teeth.

While it may be well for the teacher to inform herself on the characteristic appearance of symptoms through the course of these diseases, it must be remembered that her

¹ Quoted from Chapin by Rosenau: "Preventive Medicine and Hygiene." *Op. cit.*, p. 161-162.

chief function is, rather, early discovery and before danger of spread of the infection. The following¹ are general early symptoms the teacher can be expected to look out for:

1. Indications of *fever* may mean: chicken-pox, mumps, measles, influenza, diphtheria, or scarlet fever.
2. Appearance of *lassitude* may mean measles or diphtheria.
3. *Vomiting* may indicate chicken-pox, mumps, or scarlet fever.
4. *Sore throat* may indicate diphtheria or scarlet fever.
5. *Headache* may point to scarlet fever, diphtheria, or mumps.
6. *Eruptions* will probably indicate measles, scarlet fever, chicken-pox, or small-pox.
7. *Malaise* may indicate scarlet fever, diphtheria, or chicken-pox.

Influenza. In a report issued by the United States Census Bureau, November 17, 1918, the following statement was made:

"In forty-six American cities having a combined population of only a little more than one-fifth the total for the country, the mortality resulting from the influenza epidemic during the nine weeks' period ending November 9, was nearly double that in the American Expeditionary Forces from the time the first contingent landed in France until the cessation of hostilities."

A study² of age distribution of the deaths from this dis-

¹Bennett: "School Efficiency," New York, 1917, p. 90-92, Ginn and Company. Calvert: "Prevention of Contagious Diseases Among School Children," Bulletin Univ. of Missouri, Medical Series, Vol. I, No. 3, Hoag and Terman: "Health Work in the Schools," give complete tabulation of general and specific symptoms, methods of infection, and periods of exclusion recommended, pp. 192-195.

²Robertson and Koehler: "Preliminary Report on the Influenza Epidemic in Chicago," *The American Journal of Public Health*, Nov., 1918, pp. 849-856.

ease and pneumonia in the epidemic in Chicago in the fall of 1918 shows that the largest percentage of deaths occurred in persons between 20 and 40 years and under 10 years of age.

The onset of the disease is usually sudden and the symptoms manifested vary greatly in different persons. Even a mild attack with a low temperature for only a few days had marked and prolonged effects of great variety in different victims and in many cases produced a profound nervous disturbance. The chief danger of the disease lay in the sequelae and one of these was frequently pneumonia. This complication, it was found, would be just as likely to follow a mild as a severe attack. In many respects this pandemic opened a new chapter in the mystery of disease.

Methods of Resistance. The disease was combatted almost entirely by the methods of prevention. In some of the cities the boards of health requested the police to arrest all "open" coughers or sneezers on streets and in public places and to start an anti-spitting crusade. Warnings were issued to persons having symptoms of a cold to go to bed at once as the best precaution against the disease and as a means of isolation. To keep resistance high freedom from worry was recommended. A half-teaspoon of soda bicarbonate (baking soda) in half a glass of water was recommended to be used as a gargle several times a day. A quinine solution of two or three grains in a quart of water was also recommended to be used in the same way about three times a day. In one of the large cities¹ the following measures were adopted to prevent the spread of the disease in the schools; and these schools were not closed:

¹ Robertson and Koehler: *op. cit.*

1. Open-window ventilation of all classrooms.
2. Pupils warmly dressed.
3. Daily thorough inspection of all pupils.
4. Pupils coughing or sneezing sent home at once.

Various Signs and Symptoms. The symptoms of an ordinary cold with nasal discharge may mean influenza or they may be the beginning of whooping cough or measles or may suggest diphtheria or scarlet fever. In general, eyes that discharge and glueing of the lids and redness under the lids, extreme sensitiveness to light, any or all of these justify exclusion of the child. Scratching is a sign of itch or of pediculosis. In the case of eye diseases the infection is readily transmitted to other children through towels, wash-basins, or handkerchiefs used in common. In the case of pediculosis, which is surprisingly common in the large cities, contagion is brought about by an accidental exchange of caps or the use of the same clothes hook, or from combs or brushes used in common.

Hygiene and Economy. Physical hygiene is a necessary measure of economy in the work of the school. What effect can the best kind of teaching have if pupils are periodically absent on account of illness? Absence through sickness is as retarding as that from truancy. Besides, the school is to be looked upon as in the broader sense one of the agencies in the warfare against communicable disease, which is not only a local, but a national and an international movement. Pasteur said, "It is within the power of man to rid himself of every parasitic disease." The school must teach the theory and demonstrate the practice of hygiene and sanitation.

CHAPTER XII

WHY CHILDREN ARE DULL

Chronic Disease and Physical Defects. While in the aggregate communicable diseases cause much interruption to the work of a school year, they are a hindrance to the individual child's progress usually for a limited time only. The children afflicted usually recover, return to school, and are as bright and capable as before. But there are other diseases of a chronic kind and physical defects of a more or less permanent character which hinder school work even though they may not cause the absence of the children from school. These are not ordinarily a menace to the children not afflicted and do not require the immediate attention of the school officer. They are, however, a great source of retardation in that they are a cause of lowered vitality, which expresses itself in school work small in amount and inferior in quality.

Levels of Efficiency. Besides, these children are in classes with others relatively free from defects, and the most serious waste of time results from the fact that children in normal condition are held back, must wait and mark time until the slower ones catch up with them. This is not all. When children, or adults, get into careless habits of not working to the limit of their capacity they in time become accustomed to a slow rate of advance and a reduced effi-

ciency. Unless the school presents a stimulus and an opportunity for normal advancement the time spent there may be demoralizing and worse than simply wasted.

The Unwilling and the Incapable. This is the situation that brings into being the lazy child, the child that is not willing to study because it has no proper motive or stimulus and is classed with those who cannot study with any considerable degree of success. It is not through a vain consciousness of superiority, it is rather because the bright but indolent child in time convinces itself that it is also dull and incapable of progress. Teaching how to study is an aid to the incompetent but a concession to the indifferent.

Indifference and Dullness. The indifferent pupil will not, the dull pupil cannot do good work in school. The indifferent become apparently dull and the dull through failure become indifferent. Dullness is inability to get the thought of another person or of a book. The dull mind exhibits a certain degree of impenetrability to influences from without. It takes no hints and responds to no suggestions. This is the extreme type. There are of course different degrees of dullness, but they are in many cases due to the same cause, physical defects that interfere with certain of the vital functions. On the other hand dullness does not necessarily go with abnormal physical conditions. The pages of biography are bright with instances of the triumph of the human spirit over a constitutional weakness of body.

However, a knowledge of certain causes of dullness is essential to a proper understanding of a teacher's work. In the following chart we have at once a list of the defects that may occur and an indication of the frequency of their occurrence among the number of children examined.

CHART XVI

PHYSICAL EXAMINATION OF SCHOOL CHILDREN, CITY OF CHICAGO
(Summary for the years 1909, 1910, 1911)

Number of pupils examined	317,603	
		Per cent.
Number having physical defects	148,297	46.6
Defects found	Number	
Teeth	116,081	36.5
Tonsils — hypertrophy of	66,939	21.1
Eye — vision impaired	52,289	16.4
other defects of	1,376	.4
Glands — enlargement of	45,043	14.1
Adenoids	12,255	3.8
Nasal breathing impaired	14,936	4.7
Anæmia	8,251	2.5
Nutrition	6,958	2.2
Skin disease	5,999	1.9
Ear — hearing impaired	5,705	1.7
discharging	584	.2
Goitre	1,015	.3
Palate defects	1,193	.4
Orthopedic defects	2,766	.9
Heart disease	1,682	.5
Nervous diseases	1,327	.4
Lung disease	751	.2
Rachitic type	351	.1
Mentally impaired	1,112	.3
Other defects	8	...

Mental Consequences of Physical Defects. Non-communicable diseases and physical defects differ in general from those studied in the previous chapter in that these produce certain permanent mental dispositions when they cannot be relieved or cured. They are all likely to bring with them the feeling of inferiority, a lack of the confidence

in the self that is necessary to bring things to pass. Those afflicted become accustomed to failure and expect nothing else. They lack initiative and become mental dependents.

Effect of Consciousness of Weakness. In a certain class of these weaknesses the children know only the consequences of unknown causes. Malnutrition, adenoids, etc., represent a constant condition, and the children have never felt what it is to be well. And it is well that they have not come to reflect on their bodily states, for this induces a sort of sentimentalism that is but an additional burden. Parents or teachers should not speak of children's defects in their presence, as this will tend to make these defects an object of thought for the children themselves.

In impaired vision and hearing, children become aware of their deficiency by comparison with their classmates whose senses bring more clear and correct impressions. In certain others such as orthopedic handicaps or motor disturbances they not alone discover them by comparison with other children in plays and games but they may also, by reflection upon them, become painfully conscious of the difference between themselves and the great majority of their playmates. Peculiarities of gait, posture, or speech may be imitated by others and consciousness of them increased to a deep-rooted morbidness.

This is one of the reasons why exceptional children should be taught together. In some of the larger cities there are special classes for crippled children, for the hard of hearing, and hard-of-seeing, as well as for the blind and the deaf, the anæmic and the pretuberculous, the retardates and accelerants.

Medical Diagnosis and Education. Medical inspection

in the schools has justified itself not alone on the ground of checking epidemic diseases but it has been serviceable to parents and teachers in pointing out the need of remedial measures for defects in the children which were overlooked. The medical diagnosis makes the results of pedagogical tests more intelligible. In the following, which is a part of the report of the Chief Medical Inspector for the schools of Cincinnati, the activities and results of a city medical service are given:

CHART XVII

MEDICAL EXAMINATION OF SCHOOL CHILDREN,¹ CITY OF CINCINNATI

(September 17, 1915, to June 9, 1916)

PART I

Number of Children

	Public	Parochial	Total
Inspected after four days' absence	9,888	593	10,481
Referred to Doctor on account of minor conditions	12,565	2,613	15,178
Examined but not recommended for treatment	23,082	3,478	26,560
Needing treatment	15,945	2,332	18,277
Excluded on account of communicable disease	1,214	68	1,282
Vaccinated by district physicians	2,774	1,102	3,876

Defects and Diseases Diagnosed by District Physicians

Acute Infectious Diseases (reportable)...	523	37	560
Defective Vision	1,109	188	1,297
Diseases of the Eye	870	110	980
Defective Hearing	104	15	119

¹ Eighty-seventh Annual Report Cincinnati Public Schools for the year ending August 31, 1916, Cincinnati, 1917, pp. 297-298.

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	Public	Parochial	Total
Diseases of the Ear	267	29	296
Defective Nasal Breathing	140	19	159
Hypertrophied Tonsils and Adenoids	974	156	1,130
Diseases of Respiratory Tract	1,494	114	1,608
Pulmonary Tuberculosis	3	1	4
Pre-Tuberculous Children	33	5	38
Anæmia	205	44	249
Cardiac Disease	24	6	30
Defective Teeth	5,144	1,126	6,270
Ringworm	125	6	131
Scabies	89	2	91
Impetigo Contagiosum	222	40	262
Pediculosis	1,105	165	1,270
Other Skin Diseases	1,016	91	1,107
Minor Surgical Conditions	2,090	121	2,211
Miscellaneous	716	79	795
Total	16,253	2,354	18,607

PART II

RESULTS OF SCHOOL MEDICAL EXAMINATION

	Public	Parochial	Total
Children who were cured or improved....	11,070	1,205	12,275
Refused treatment	264	47	311
Withdrawn from school, left city, etc....	812	122	934
Pending cases	3,799	958	4,757
Total	15,945	2,332	18,277

TREATMENT

Children treated by general practitioners..	2,373	366	2,739
Children treated in clinics, hospitals and dispensaries	5,063	498	5,561

	Public	Parochial	Total
Children treated by visiting school nurse..	3,177	263	3,440
Total	10,613	1,127	11,740
Defective Vision, Diseases of Eye (glasses obtained)	807	124	931
Surgical interference for the removal of tonsils and adenoids	632	92	724
Homes visited by nurse	5,731	922	6,653
Children taken to clinics, hospitals and dispensaries	769	96	865

School Health Work a Permanent National Service.

In the discovery and correction of physical defects in school children, teachers and health officers both serve the individual child and perform a national service in the physical improvement of future citizens. The *causes of rejection* of recruits for service in the United States army as set forth in the Report ¹ of the Provost Marshal General of the First Draft under the Selective Service Act, 1917, show a wide range of imperfection among those who were called to their country's defense. The data were obtained from a study of 10,258 cases of rejection taken from eight of the camps. A total number of 21 definite causes are given:

CHART XVIII

Causes	Per cent
1. Physical undevelopment	4.06
2. Teeth	8.50
3. Ear	5.94
4. Eye	21.68

¹ Report of the Provost Marshal General of the First Draft under the Selective Service Act, 1917, p. 47.

Causes	Per cent
5. Blood vessels	1.86
6. Muscles	0.64
7. Bones	2.96
8. Joints	3.37
9. Skin	1.15
10. Flat foot	3.65
11. Underweight	1.59
12. Tuberculosis	5.37
13. Heart Disease	5.87
14. Hernia	7.47
15. Digestive System	0.80
16. Respiratory	1.56
17. Genito-Urinary (non-venereal)	1.39
18. Genito-Urinary (venereal)	4.27
19. Mentally Deficient	4.53
20. Nervous Disorders (general and local)	3.77
21. Alcoholism and Drug Habit	0.77
22. Ill defined and not specified	0.91
23. Not stated	7.89

Defects of the Respiratory System. Among the most numerous and distressing of the defects that cause incapacity in school children are those of the respiratory system. Inspiration and expiration, which together make respiration, are normally carried on through the nose. When the nose is obstructed with adenoids or a deflected septum the child becomes partially or in toto a mouth-breather. The teacher can leave the diagnosis of the real difficulty to the medical inspector, the family physician, or the specialist. It is sufficient to know and report that the child does not breathe the natural way. If the school is not under a system of medical inspection, the parent can be informed and advised to consult the family physician or a specialist.

Nasal obstruction may be due to a lack of cleanliness, according to Newmayer,¹ of the Philadelphia schools. Of 50 pupils sent by him to a nose and throat specialist, only nine were found to have adenoids, "while over half had nasal obstruction and mouth-breathing from a lack of cleanliness of the nostrils."

Mouth-breathing produces a condition of the mucous membrane peculiarly favorable to the contraction of nasal colds and the infection of diseases of the nose and throat. It has a disturbing effect upon speech, as the nasal cavity is required for the correct production of certain sounds. When obstructed, sounds such as *n* and *m* cannot be given their value. "Nobody but Miss Nancy" becomes "Do-body but Biss Dancy."

In a large number of cases of adenoid obstruction the hearing is also impaired. 39 out of 47 cases examined by Blake of Boston showed marked improvement in hearing following operation upon the growths. When the condition has existed from infancy there is often marked deformity of the chest. It is a known cause of pigeon breast, according to Holt. These growths also produce anæmia and general malnutrition, owing to constant interference with sleep through obstructed respiration, and they may be a reflex cause of nervous disturbances, such as chorea, asthma, and catarrhal spasm of the larynx. An obstruction sufficient to cause serious disturbance may be present and yet not be noticeable in day time. The condition is in some cases indicated only by extreme restlessness at night. Patients with adenoid growths contract epidemic respiratory

¹ Newmayer: "Medical and Sanitary Inspection of Schools," Phila., 1913, Lea and Febiger.

diseases more easily than do others, and under this condition these diseases are likely to be more severe.

With adenoid growths are to be classed enlargements of the neck glands and enlarged tonsils. They are due to a common cause, are commonly found together, and are designated by the general term "lymphatism."¹ Enlarged tonsils are a source of danger from catarrh and deafness and are like adenoid growths in increasing the liability to diphtheria and scarlet fever.

Defects of the Digestive System — The Teeth. It is claimed that careful examination of school children will reveal that 95 per cent have defective and diseased teeth. This is an affliction that is older than history and one that seems to keep step with advancing civilization. As indicated by recovered skulls even pre-historic man had reduced posterior molars and was troubled with caries. Nearly all animal species and some savage races have strong and beautiful teeth, although with no other care than what nature gives them. Man alone of all animals normally has his teeth in a closed series. When the unbroken line is interrupted by extraction, the troubles of decay and infected gums are likely to begin. To bridge the gaps and to crown teeth rarely if ever proves sanitary. The worst of it is that these devices often only conceal infections which can be discovered only by means of the X-ray. In the familiar gum-boil the infection exudes to the surface; in other instances the concealed poison-sack drains continuously into the system and becomes an unsuspected cause of disturbances in the action of the heart, the kidneys, or other organs.

¹ Holt, L. E.: "Diseases of Infancy and Childhood," New York, 1911.

Diseased Teeth and Retardation. While there are no doubt many exceptions to the rule, it is believed by many investigators that there is a close connection between diseased teeth and mental and physical retardation. In general they lower vitality, which diminishes resistance to disease and lowers the efficiency of the school child. Of 3,304 boys from ten to fourteen years of age examined by Ayres in New York, 42 per cent of the dullards and 40 per cent of those with average intelligence had defective teeth, but only 34 per cent of those classed as bright. The statistics of the proportion of school children with defective teeth vary greatly, depending on what the examiners count as defects. In the Charts of defects given in this chapter the percentage of children so afflicted is not too high, the first being 36.5 and the second 33.1 of the number examined.

Brushing and Cleansing the Teeth. The universally recommended prophylactic is brushing and cleansing the teeth. If there are spaces between the teeth silk floss is recommended to keep the surfaces not reached by the brush in sanitary condition. The teeth, including the temporary set of the very young child, should be examined twice a year by a competent dentist. The first permanent molars especially should be carefully watched simply because they may not be recognized as permanent. The view that the temporary sets need no attention because they are only temporary anyway, is a mistaken one.

Poor general resistance, special susceptibility, form of diet, acid in mouth, and bacteria are the usual causes of caries. The only means of prevention is to cleanse and brush the teeth so as to remove all causes of decay. The process of brushing is apparently a very simple one, but to

make it really effective medical inspectors have developed a careful technique in the matter and in many schools tooth-brush drills are given as class exercises. The following is a procedure recommended in a recent book on the subject :

A small amount of precipitated chalk in the palm of one hand

Touch the chalk with a wet brush

Brush

1 up and down the inside of the lower front teeth

2 right and left side of the lower back teeth

3 inside of upper front teeth

4 right and left side of upper back teeth

5 outside of all teeth brushing up and down

Brush the teeth at night and rinse the mouth night and morning with a teaspoonful of table salt dissolved in a tumbler of warm water.¹

Malnutrition. This is another of the major causes of dullness. The human body is normally a self-starting, self-running, self-regulating, self-repairing, and at the same time a growing machine. Physical defects in one way or another interfere with these processes. The free-living animal cell, in immediate contact with its environment, takes therefrom a certain amount of organic substances and a small quantity of inorganic salts as food. It also takes oxygen.

Food is energy-producing fuel. Oxygen is an agent of combustion. When the two are brought together the product is energy. Now, the mechanism on which they depend may not function properly. In a complex organism like the human body, the cells are not in immediate contact

¹ Newmayer: "Medical and Sanitary Inspection of Schools," *op. cit.*, p. 215.

with food and oxygen. These must be brought to the cells of four kinds of tissue; the epithelial, representing all coverings whether external or internal, the contractile, the skeletal, and the nervous, or coördinating, tissues. Malnutrition may have its effect on any of them. The cells lying far from the surface require a medium, blood and lymph, to bring them food. But food as we know it is not found in its simpler elements; the process of its transformation is carried on in the digestive organs. This is preliminary to assimilation through which the food elements become a part of the various cells.

Malnutrition, therefore, may result from disorders of digestion or from lack of assimilation. It may be due to an insufficient amount of food, to a monotonous or unbalanced diet, or to the use of improperly cooked food. It is usually, but not necessarily, connected with poverty. The children of the well-to-do may also suffer from it. There are statistics extant to show that the number of school children afflicted may go as high as 30 per cent. It is believed, however, that this is much too high for a vast majority of the schools. The per cent of cases reported from the list given on page 185 is only 2.2. This would probably be much increased in the congested districts.

Malnutrition and Dullness. But there can be no mistake that there is a close connection between malnutrition and dullness. Dr. Warner found that of 100,000 London school children whom he examined 28 per cent of the dull pupils were undernourished and about the same per cent of the under-nourished were dull. Macmillan and Bodine found 54.6 per cent of 2,100 retarded children ill-nourished.

Rachitic Effects. Malnutrition may be evident in the

muscular development or it may appear in the connective or skeletal tissue and produce rickets. The skin is usually pale and the body thin. This is not always the case, however. The rachitic effects are more clearly and unmistakably manifest in bow-legs, knock-knees, pigeon breast, and spinal curvature.

Spinal curvatures are of three forms: lateral to either side and outward and inward. The posture which children must assume at school desks unsuited to them accentuates the defect. Some are predisposed to some form of curvature on account of malnutrition before they appear at school. The teacher should aim to discover this kind of defect as soon as possible. If it is in a mild form care should be taken to adjust the desk to the size of the pupil. If the case is a marked one it should be referred to the school physician. As a matter of course all the seats in the school-room should be adjusted to the size of the children, only, in the cases of spinal defects, it becomes all the more imperative.

School Feeding. The milder effects of malnutrition are general lassitude, dullness of mind and expression, nervousness, lack of energy and endurance, shortness of breath, and listlessness. The work of the school is almost entirely wasted on such children. In case it is due to insufficient or unsuitable food, school feeding becomes a justifiable measure of economy. This is by no means a new idea, for the feeding of school children began on the continent of Europe as early as 1790, and was introduced into English territory when Victor Hugo, for the time being an exile in the island of Guernsey, provided warm meals in his house for the children of a school near by. In America the date

of its beginning was 1855 when the Children's Aid Society of New York City began to furnish free lunches for the children of the industrial schools. The movement has become national in scope in all the principal countries of Europe, including Finland and Russia. It was first a private benefaction, then it became an object of charity organizations, and finally in many cities the work was made a part of the public educational organization. In most of the cities in the United States the boards of education pay for the equipment of school lunch rooms out of the public funds, but do not provide food. This is undertaken by civics leagues, women's clubs, mothers' clubs, or other voluntary organizations.

In 1913 the school lunch had been introduced in thirty of the cities of the country. In the state of Minnesota the principle has been extended to the rural schools through plans promoted by the Agricultural Division of the University of Minnesota. In the rural districts children usually take cold lunches to school to eat them alone and without order or ceremony. The new movement has made its beginning with the simple equipment of a top to an ordinary heating stove on which food can be cooked or warmed. Providing a fuller equipment would require only a little co-operation between the school's manual training and domestic science departments.

Besides supplying well-cooked food which is necessary to do good work in the school, lunch, whether supplied by the city or the rural school, affords exceptional educational opportunities. Not alone is there value in the actual work of preparing and serving it, but the whole procedure gives opportunity for the study of food values and habituation to

table manners and etiquette. This is an excellent method of establishing proper ideals of home life in the minds of children who in many instances would have little opportunity to learn elsewhere. Besides, it is a way of influencing them directly and at once in improved methods of living.¹

Relieving malnutrition due to insufficient or unsuitable food by means of school lunches has justified itself in the improved physical condition of the children for whom it was intended, in better school work, and in improved behavior. Indirectly, it has proved a means of social culture for all the children.

Impoverished Blood — Anæmia. Although digestive disturbances and a poor appetite are nearly always among the symptoms of anæmia, it is held that this is a disease or defect of the circulatory rather than of the digestive system. Its immediate cause is a deficient proportion of red corpuscles. It is in these that the hemoglobin carry the oxygen supply from the lungs to the cells of the body and brain. The digestive system prepares the nutrient substance. This is absorbed by the capillaries in the walls of the stomach and intestines and carried by certain veins to the right auricle of the heart.² From there it passes to the lungs for oxygen. Now if there is a deficiency in the hemoglobin content of the blood, in the proportion of the red corpuscles, an insufficient supply of oxygen is provided for the proper combustion of the energy-producing nutrient fuel.

¹ Bryant: "School Feeding," Phila., 1914, J. B. Lippincott and Company.

² Kimber: "Anatomy and Physiology for Nurses," The Macmillan Company, New York, 1910, Chap. VIII.

In a cubic millimeter of the blood there are on an average 5,000,000 red and 7,000 white corpuscles. The number of white varies normally much more than that of red. The proportion of the white to the red is from 1 to 250 up to 1 to 1,000. Sixty per cent of normal hemoglobin content is the lowest limit in health. In the more serious degrees of anæmia this may go down to thirty per cent. It is the function of the white corpuscles, it will be remembered, to kill bacteria; they do this by generating a defensive proteid, and by virtue of their power of spontaneous movement they creep around bacteria, envelop, and "devour" them. The diagnosis of anæmia requires blood tests which a competent physician can make without pain or inconvenience to the patient.

Anæmia and Dullness. The anæmic child is incapable of sustained effort. Its small store of energy is soon depleted and the school work done goes forward slowly and on a low level of efficiency. Open air conditions in nearly all cases bring about much improvement in the vigor and alertness of this type of child.

Sense Defects. While in the infectious diseases there is as little primary connection between any two as the species of bacteria causing them are distinct and unrelated, in the case of physical defects thus far considered there seems to be a close relation. With adenoids are to be found symptoms of malnutrition and rickets, with defective teeth malnutrition, with enlarged cervical glands, adenoids, with all obstruction in the nose and throat, defective hearing. All the physical defects seem rather closely correlated except diseases of the eye. Defects of vision are not, like those of hearing, a result of these constitutional disorders, they are

rather to be classed with disturbances of a nervous character but not such as predispose to mental dullness.

That there is nothing in the mind that was not before in the sense is an old pedagogical dictum that makes sense defects an obvious cause of mistaken impressions from the external world. When the senses give no reports, or wrong reports, of the environment, the mind must be poorly or imperfectly furnished. Considering the number of children affected, weakness of hearing and vision form two of the most important defects in school children.

Hearing. In certain respects hearing, however, is of higher educational value than certain other senses, at least impaired hearing is a greater hindrance to educational progress for the reason that the highly valuable agency of language is interfered with. And deafness means social isolation, to a large extent, with its consequent psychic effects.

From the statistics gathered by investigators, it is assumed that from 10 to 20 per cent of school children have defective hearing to some degree. About half the cases are due to heredity. The other half are usually the consequences of one or another of the well-known infectious diseases and the equally well-known defects of the nose and throat.

Hearing Test. The most generally approved test for hearing is the whispering test, the examiner using his residual air to produce the whisper. The pupil examined stands with his back to the examiner and 20 feet away while an assistant closes each of the pupil's ears in succession by pressing his finger firmly on the tragus. If the whisper is inaudible to the pupil, the voice of the examiner will be

raised to a forced whisper, to ordinary voice, or to loud voice, as may be necessary.¹

Impaired Hearing and Dullness. The relation of impaired hearing to dullness is shown by the results of investigations made. The proportion of partially deaf children in the schools of Camden, New Jersey,² was found to be 50 per cent greater among those retarded than among those who were up to grade. Of 5,005 Philadelphia school children 3,587 who were excused from final examination on the basis of good work had defects of hearing only half as frequently as the 1,418 non-exempt. These are selected and representative statistics of many that are available and they indicate what is naturally to be inferred, that retardation is closely related to defects of hearing.

Symptoms of Defective Hearing. The symptoms of defective hearing in children are unmistakable. As it is often accompanied by obstructed breathing, it is characterized by the facial expression that goes with that ailment. The voice is characteristic usually in the most severe cases. In children there is much wandering of attention because they are not in full mental connection with what goes on. Speech is imperfect because imperfectly heard forms are accepted as correct and used.

About the only immediate help a teacher can give a pupil who is hard of hearing is to seat him advantageously. By far the most common of the acute diseases of the ear is inflammation of the middle ear. When ear trouble is of

¹ This follows paragraph 39, General Order No. 66, U. S. Rules for the Physical Examination of Recruits, quoted by Rosenau: "Preventive Medicine and Hygiene," *op. cit.*, p. 1194.

² Terman: "Hygiene of the School Child," p. 224.

long standing it is usually very difficult to cure. It is imperative that a child afflicted in this way be sent as soon as possible to a specialist for diagnosis and treatment.

Vision. The states of Connecticut, Vermont, Colorado, and Massachusetts require teachers to examine the eyes of the pupils. Vermont and Massachusetts include tests for hearing in the requirement. In 552 cities in the United States vision and hearing tests are given by the teachers. The formal regulations are usually printed with detailed instructions as to the method of procedure. Test cards are provided and it is claimed by authorities that teachers not only can but that they should do this work, for they should have this means of learning something about the vision of pupils. However, the card tests must be regarded as preliminary with those having defects. They must be advised to consult competent specialists. On the other hand, if the card tests are to decide finally, many a pupil will seem to have perfect vision with their use and go on suffering with headache and other nervous symptoms. Newmayer claims that it is almost impossible to diagnose the kind of ametropia present except when the child is under a mydriatic and the oculist uses instruments of precision, such as the retinoscope and the ophthalmoscope. "Under skilled examinations the hyperopes (far-sighted) ¹ vary from 75 to 85 per cent of the defects found." That is, near-sight is not as common as was supposed, for it averages less than 20 per cent of the defects diagnosed. Of 3,397 children examined under a mydriatic, Wessells found 70 per cent hyperopic, 12 per cent myopic (near-sighted), 9 per cent with mixed astig-

¹ Newmayer: "Medical and Sanitary Inspection of Schools," *op. cit.*, p. 186.

matism (refractive error due to unequal curvature of the eye), and 9 per cent anisometropic (eyes differing in kind of refractive error).¹ Available statistics indicate that 10 to 30 per cent of the children in school have defective vision. In a class of forty children one might therefore expect to find from four to twelve pupils with corrected or uncorrected vision. Vision is commonly tested by the Snellen test card. This can be purchased at trifling expense. The lines of letters of different size are marked to be read at distances of 20, 30, 40, etc., feet. The child does not face the light. One eye is tested at a time while the other is covered with a piece of cardboard. Ability to read a majority of the letters is accepted as satisfactory.

Symptoms of Eye Strain. Newmayer regards the ordinary method of observing signs and symptoms of eye-strain as fairly reliable for any one not trained in the use of instruments of precision. The following is a list of the symptoms that an observant teacher, by her continuous presence with the pupils at work, can readily discover:—Squinting; wrinkling of the forehead; peculiar head postures; holding book near the eyes; headaches in the front, temples, or base of the head; nausea, especially when riding in the cars; twitching of muscles of the forehead or face resembling chorea; difficulty in reading from the blackboard; congested eyes; sensitiveness to light; holding book farther from the eyes than is normal; blurring of letters; double vision; deficiency in reading writing; lack of concentration.

Standard Size of Letters. The campaign against eye-strain has resulted in the general acceptance of standards

¹ Newmayer: *op. cit.*

of type to be used in school books.¹ The minimum standard for the first year books is :

**Size of type—2.6 millimeters;
width of leading—4.5 millimeters as
shown in this example.**

For the second and third year :

**Size—2 millimeters; width of leading—
4 mm., as shown in this example.**

For fourth year :

**Size—1.8 mm.; width of leading—3.6 mm., as
here exemplified.**

Conservation of Vision in School. There are many more pupils with defective vision in the schools than there are with defective hearing, although the deaf outnumber the blind in the schools reported by the U. S. Commissioner of Education. In the larger cities where the number seems to justify the arrangement, those pupils who are not blind but whose vision is so seriously impaired as to make them a special problem in the regular classes, are taught together under conditions specially favorable to the conservation of vision.

Speech Defects. These are to a considerable extent related to many of the defects already discussed. Certain of the forms they may take are also closely connected with nervousness. Palatal defects, if severe, such as cleft palate, will be readily noticeable in speech. The expiring breath which must be depended upon for the enunciation of the

¹ Shaw : "School Hygiene," The Macmillan Company, New York, p. 178.

sounds of language is diverted in the cavity of the cleft. Correct speech is dependent upon normal conditions in lips, teeth, tongue, palate, throat, nostrils, and nerve centers. The most common of the speech defects found among school children are hesitating speech, habitual carelessness in rendering the speech sounds, stammering, of which lisping is one of the forms, and stuttering.

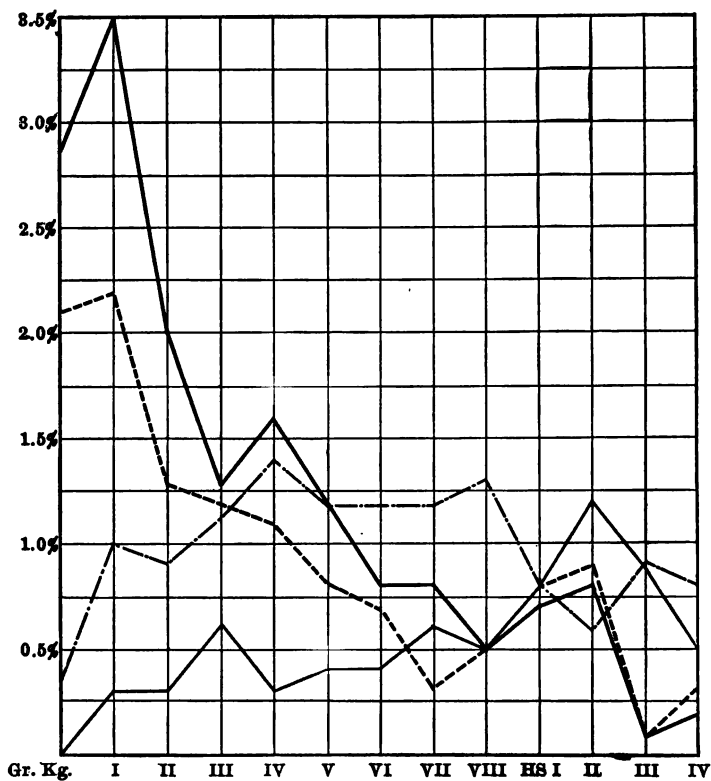
In *stammering* the child is incapable of making certain sounds correctly; for instance *th* is substituted for *s* as in the lisp, or *k* may take the place of *sh*. This defect is suggestive of arrest of development from the time of the true stammer, a period through which every child passes in the early acquisition of speech.

On the other hand, the *stutterer* can pronounce all the sounds, but not at all times. A sudden interruption of the speech mechanism occurs at the beginning of words or accented syllables through a diversion of the available nervous energy from the vocal and respiratory elements of speech to accessory movements. In severe cases the misdirected energy may overflow beyond these movements and affect the whole body. A large proportion of the cases of stuttering occur before the age of six and nearly all the remainder before the age of fourteen. In a recent study of speech defects among 89,057 school children of St. Louis, the grade distribution of the lispers (stammerers) and stutterers was as indicated in the following graph, Chart XIX, next page.

The total number of speech defectives among school children from several extensive investigations range in America from 2.2 to 2.8 per cent, 2.5 being a fair average. Of those who stutter the range is from a little over a half per cent to one and a half, with an average of about 0.9 per cent.

CHART XIX

GRADE DISTRIBUTION OF LISPERS AND STUTTERERS ¹



No.

Lispers ————— Boys 852 Stutterers - - - - - Boys 492
 Lispers - - - - - Girls 596 Stutterers ————— Girls 191

¹ J. E. W. Wallin in 62nd Rep. Supt. St. Louis Public Schools, 1916, pp. 174-211.

Speech Defects and Retardation. All the reports of investigations agree that *speech defects are closely correlated with retardation*. This is due to the fact that for a considerable proportion of those afflicted the defect manifested in speech is but one of many causes common to an inferior heredity. In other cases the defect is aggravated by a sensitive reaction to social experience, whatever its cause may be; the child is often imitated and made self-conscious of his difficulty. Teachers do not like to call on those who stutter for in reciting in class they are almost certain to exhibit the defect. This may create a laugh and it invariably detracts the attention of the pupils from the matter in hand. Hence the stutterer is to a large extent cut off from full participation in the work of the school.

Cure of Speech Defect. Stuttering is curable in 80 per cent of the cases. The percentage rises higher under the most skillful treatment. Lipping is not so complicated as stuttering and yields as a rule more readily to treatment in the case of children who are otherwise normal. In the larger cities the special classes or schools in which the children can be kept all day have, it seems, proved the most successful in curing the defect. Whether the defect can be cured in any individual cases depends on the instructor, the child, and the severity of the defect. In all cases of the stammering or lipping type, the regular teacher can do much by means of articulation drills, where special classes are not available. Stuttering may have nervous complications which are hard to reach. Affections due to it disappear as soon as a cure takes place.

Mental Types of Stutterers. Two types of mental dispositions are recognized in those who stutter. There are

those who exercise undue haste in speech in an effort to side-track the difficulty. They are active and alert minded, talk much, and stutter at intervals. The other type is shy and silent, repressing speech altogether as much as possible. They avoid occasions that require speech, hence they become unsociable and lonely, acquiring a disposition somewhat akin to that of those who are cut off from social intercourse on the passive side of speech through the loss of hearing. And yet there is still another type, those who are perfectly normal in all other respects and who would be readily curable with proper drill in articulation along with a regulated breathing such as every one who speaks normally exemplifies; a quick inspiration is followed by slow expiration in regular uninterrupted speech, sufficient breath being taken in to support and regulate the outflow in continuous speech.

Summary. The aims of education are to a certain extent defeated on the part of the child through

1. Communicable disease, on account of temporary interruptions of school work and possible consequences in permanent impairment of sense organs or other powers.
2. Mental incompleteness, which involves all the degrees of feeble-mindedness and border line cases manifested by extreme retardation.
3. Mental limitations due to physical defect.
4. Nervousness due to reflex irritation from physical defects, of which defective vision is the clearest example.

CHAPTER XIII

ORIGINAL ASSETS OF CHARACTER

By Way of Transition. In the light of what is to follow the preceding chapters give a view of the conditions which are preliminary to the teacher's success. Buildings and grounds, for instance, are equipped and made sanitary, attractive, and comfortable. If, to begin with, such primary matters are not properly attended to, no blame can rest on the teacher. Again, if a child is mentally deficient or suffers from physical defects that hamper school progress, these also are causes beyond the teacher's control. Now, however, in this and succeeding chapters, we come to a place where the teacher assumes large responsibilities.

In the management of the school and the actual training of the children the field of endeavor is peculiarly the teacher's own. In this, the proper work of the school, all other appointees of the system, the superintendent and the board of education with their numerous official helpers, the medical supervisors, and the janitors — the work of all of them is only preliminary or accessory to the actual work done by the teacher with the children. She may secure the advice of friends, parents, principals, and others, consult books for principles of guidance, but the final responsibility is her own.

Pupil Management. Having her pupils under daily observation, the teacher has a peculiar advantage in the study of her work over practitioners in other professional fields.

But pupil management is a difficult problem and school government sometimes turns out to be teacher management by the pupils. Just as in the home it may happen that children have a shrewder sense of the gentle means of control over the parents than the parents have over the children.

The Child's Initial Equipment. As a means of exercising a wise control over children, it is well to assume that on their first appearance at school they bring a certain equipment of powers. It is a reasonable and business-like procedure to take stock in a general way of what each child can do before the school work begins.

In the first place, he brings an equipment of health which must in no way be impaired. He has had much experience in the exercise of the senses and is still fond of using these natural avenues of information in regard to the qualities of objects. He has learned the intricate mechanism of a language and speaks probably in accordance with correct grammar and with a nicety of pronunciation that is surprising for one who is practically self-taught. All his attainments have come to him with little conscious effort in his self-instituted school of play. He has exercised a daring fancy with the limited data derived from experience ever since he heard his first story, thus bringing into being a rich imaginary world of his own. We may well wonder whether he will advance as rapidly with us in the school as he did when by himself.

Furthermore, the child comes to school with a certain degree of moral development. This fact it is also necessary to take into account. The school is not the place to build character out of nothing. It is the place to guide and form the promising beginnings. If young children are not moral,

it is because they are unmoral, not immoral. If children are old enough and are immoral, the public school is not the place for them. Its function is not restorative in either health or morals. It is neither a sanitarium nor a house of correction.

But the school must preserve the moral as well as the physical health. Without health, educational values are lost and without morals they are perverted. But while health, mind, and morals are separately conceivable, in reality the mind acts as a unit. There is a hygiene of the mental and the moral life. Also, the will takes part in an act of thought as well as in emotional and physical control.

Accordingly, in the following pages artificial distinctions between the moral and the other factors of the mind will as far as possible be avoided, and the view will be maintained that there is a hygiene of native impulses, of emotional control, and of mental and social development.

Original tendencies that are favorable to the development of character are manifest in the child from the beginning. That they may be stifled and perverted and bear evil fruit is possible, but if opportunities are offered in time for their exercise in the right direction they can produce only good results. Signs of mental as well as physical health are manifested by normally constituted children. They are naturally endowed with tendencies that conserve mental integrity. To recognize their value in the school and the home is a measure of good management and economy.

The Impulse to Act. The normal child manifests an active attitude.¹ In early life the field of association, de-

¹ Burnham: "Mental Health for School Children," *Mental Hygiene*, Vol. II, January, 1918, pp. 19-22.

liberation, and analysis is relatively limited; but the paths to impression and response are wide open. Normal development of the higher powers depends on normal exercise of impression and response. Children come to school to do things. Unless they are usefully employed they are likely to get into mischief. The teacher should not regard this as an indication that they are trying her patience or wish her ill. They simply feel an abundance of energy which seeks expression. This condition is not to be confused with the chronic nervousness to be described in another chapter. There is here no abnormal alertness of a wavering attention. To manifest an active attitude is consistent with the power to concentrate attention upon any object of interest, whether it be a bear-story or a ball.

The Impulse to Resist. This is also a form of activity of the normal mind. It is indispensable to the moral life. The sense of individuality cannot round itself into form without exercise of the powers of resistance. In early life the impulse is a necessary means to learn the distinction between the "me" and the "not-me." In the moral character of adult life it makes clear the difference between what one stands for and what he opposes. To stand for something means to oppose something else. Men become great through resistance to forces that hinder and oppose. Without this impulse the issues of life become obscured and personality becomes weak and colorless.

However, action is the normal result of the impulse. But this may lead to extremes of conduct. The remedy still is action, not inaction and repression, but action diverted from the original cause of offense. The mother or teacher for whom a child becomes violently agitated through opposition

to its wishes, does well to divert the attention to something else that also requires resistant action. The school boy on the playground who was kept from his chance at the swing and therefore became very angry, did well to give vent to his passion by climbing a pole. He relieved the tension by giving it an outlet through muscular action. Otherwise it would have short-circuited and caused nervous strain.

The results of repression may be noted in the subdued and morbidly sensitive bearing of children in whom every whimper of opposition is always immediately crushed by arbitrary force. Intense feelings harbored in silence produce unbalanced tendencies and maladjustments to the demands of normal life. In adjusting differences between pupils, or between the teacher and a pupil, the tension may be relieved by talking the matter out together and thus arriving at an understanding all around. Facing a situation frankly and in an active way drains off the dead weight of interfering repressed emotions and restores the power of normal response.

Another favorable sign in children is the *tendency to dispel feelings of ill-will*. The normal child lives so intensely in the present that the emotions attendant upon experiences are relatively discontinuous and short-lived. Young children naturally live by the injunction, "Let not the sun go down on your wrath." It is a matter of surprise and wonderment among them to learn how long their elders can be "mad" and pass without speaking. It is known that children note and talk about quarrels of long standing and in time come to admire the attitude and try hard to imitate it as a sign of strength of character. When children quarrel in school, and it is not necessarily a bad sign if they do, the

teacher should look for opportunities to have them meet in common play or work in such a way that the disturbed feelings will soon be dissipated. Signs of coolness and dissension between their teachers in the same room or building are likely to be harmfully suggestive.

The *impulse to render service* is commonly manifested by children of school age. They delight in activities that are of value to the teacher or the school. The tendency is so strong that asking a child to do something, run an errand, open or close a window, take care of a plant, or assist the teacher in other ways, has the effect of bestowing a reward for good behavior. The service is free and voluntary, and to be valuable this must be so. The greatest service that has ever come to humanity was ever rendered without money and without price. Children should have opportunities to give expression to this impulse so that it may not be an unknown experience in later life. The commercial interest will come soon enough, without anticipations and promptings through money rewards often given in the home for a trifling service. It is a part of the training in citizenship to learn to think of political service to the country as of a kind that is fundamentally a free-will offering and not an opportunity to make money. It should be an experience not unknown to the child in relation to the home and the school before the duties of citizenship are formally assumed.

The impulse to take the initiative and assume responsibility is another sign of mental health. If the teacher and parent would have the character of the child develop in a normal way this impulse must not be repressed. There is no trait more common nor more interesting in young children than their purposeful readiness to act. They are al-

ways willing to go ahead and produce results and eager to accept responsibility for them. When anything is to be undertaken to do the parent hears the insistent "Let me" and when it is finished and the results can be exhibited the satisfied ego says, "*I did that.*" The few scrawls that represent a drawing that perhaps an artist would hesitate to undertake are handed around with admirable assurance and without a commentary of excuses on account of the difficulties of the subject.

Clearly as we recognize this characteristic of childhood, just so certainly do we witness its gradual disappearance in the years of school life. The child becomes a part of the school machinery, lessons are assigned, tasks are imposed, and a routine is established that makes no allowance for a child's initiative and tends to reduce all individualities to a common level. Some children become so habituated to having others plan their activities that they become uncertain of means to ends and awkward in the use of means decided upon. The school experience often establishes an attitude of concern about the consequences to the self and self-conscious incompetence leads to an unwillingness to assume responsibility for any undertaking. On the other hand, to induce a self-conscious feeling of superiority through repeated comment on a child's excellence in his presence is also an unfavorable result of school training. The child should not get into the habit of comparing himself with other children. It is better to direct the mind to results achieved or to be achieved than to contemplation of the personal qualities of the self.

It is a normal *impulse of children to seek companionship* with those of their own age. At first it is an expedient to

further the play activity. To play alone makes demands of imaginative powers that some children do not possess. The only child, or the only small child in a family, may supply an imaginary companion for a real one which circumstances have denied him. But all normal children seem to prefer a playmate in flesh and blood. They like to go to school because of the other children, like to read books about children of their own age in their own or other lands. There is no better means of all-around character development than is offered by association in free play at school. Here if the teacher remains somewhat in the background the give and take of strenuous play will weaken conventional inhibitions and all kinds of impulses will come to the surface. Along with free activity comes exercise of judgment of how to act and how to resist aggression, and primary lessons of justice taught by the reactions of the group to unworthy conduct induce a growing sense of moral responsibility.

In the course of time there develops a strong *desire for the approval of the group*. If a child manifests a feeling of aloofness from a sense of intellectual or social superiority, we have an unpromising symptom. This is not a normal tendency; an aristocratic feeling must be artificially implanted by parents, it is not a natural growth. When the higher plane of development has been reached, the approval of the group will serve the needs of government and discipline just as public opinion in the larger sense controls the destinies of a free state. And the capable manager of a school will make use of it, will not violate the child's sense of justice and fair play by unreasonable and arbitrary decisions in regard to the conduct of any pupil.

Out of the impulse to seek companionship comes also *the*

desire to coöperate for any common good. When children have learned how to play together they will also know how to work together. They will learn to be leaders and followers. Since in companionship the impulse is to be with those of their own age, it is best if their teachers do not act as leaders among them. This principle controls in the kindergarten where the director plays as one of their number. As the children grow older the teacher should withdraw more and more into the background and let them as far as possible plan and carry out their own enterprises. In the higher grades the pride of the group in matters of honor or achievement becomes a strong force in discipline. And this is training in democracy and community life. It is a way to nourish the growth of social ideals which in mature life will demand the best attainable for the city, the state, and the nation.

The natural hunger of the senses is one of the forces of training that, strange to say, is often forgotten. The ordinary schoolroom offers little satisfaction to the eager curiosity of the child. It is bare of real objects. There are a few books and maps and perhaps pictures but these are abstractions compared with growing, living things. When we accept the view that there is nothing in the mind that was not first in the senses, we can believe that empty-headedness is demoralizing; for the too limited data of experience lead to over-elaboration, which is a fruitful source of superstition and of false and evil ideas of life. It also induces in children a premature inward turn to the mind on the states of the self.

"We believe it is not well for little children of six to be set down in rows of wood and iron seats and bidden to fold their hands, face

front, look at the teacher, wait for the teacher's direction, do nothing except as the teacher bids them, and reduce themselves as promptly as possible to a very close likeness to those wooden and iron seats in which they sit." ¹

"Many teachers who believe that learning and doing go together have put forth great efforts to make their schoolrooms veritable laboratories in which the material and the tools used prove that experimentation has an important place in all of their plans. One of these wise teachers of first-grade children says that she wants her children to know that the world is full of interesting things to be done, and she wants them to be able to fill their time with good work without the what and when always coming from somebody else." ²

A desire to get on, to make appreciable progress, is another normal sign. Children must feel that they are going on or they will be oppressed by monotony. The younger they are, the less can their attention sustain itself on minute analysis. There must be signs of progress in the number of pages covered and the succession of points considered. When the teacher makes a reasonable adjustment to this demand of the nature of her children she is not likely to fall into the error of too slow and too thorough. There is danger in the motto, "Not how much but how well" as related to young children in school. Years ago when this was applied to teaching reading thoroughly for perfect expression and weeks and even months were spent on a teacher's favorite classic and her ideals of elocution, the time devoted to the subject was largely wasted and led to disgust for the performance with no real gain in the power to use

¹ In Report of Third Annual Meeting National Council of Primary Education, Bulletin No. 26, 1918, U. S. Bureau of Education, pp. 13-15.

² *Op. cit.*, p. 196.

books. There is a limit beyond which drill on a subject will simply no longer "take" as shown by the fact that the children will make the same errors over and over in spite of the efforts of the overworked teacher. In errors in English, for instance, instead of harping on all the errors made all the time, it is much better to take one at a time and thus create the impression of going on from one to the next until the whole matter is covered.

Among the older children there is a normal *desire for completed action*, a mental satisfaction in feeling, "Well, that is done; now for something else." It is undesirable to assign a lesson too long to complete within the time allowed. And repeatedly to take the same lesson over undermines the will to work. The lessons have to be planned so that the unit assigned can be satisfactorily covered. And when a lesson has been assigned it is important that every pupil have an opportunity to render a part in the final account, to take part in the concluding act, the recitation or report. When children or even older students are not called on to recite what they have learned, they will not long be faithful to their studies. They like to finish what they begin. In the higher grades a day may pass without calling on some of the pupils, but this should not happen below the seventh grade.

Closely related to the foregoing is a *desire for results* of a sensible kind. It is too much to expect that an elementary or high school pupil will act on the principle that either learning or virtue is its own reward. They require some tangible or visible evidence of success in their studies. This may take the form of an exhibition of work done, a certificate, a mark in the form of a grade, or some other

token. It is unnecessary to argue that this is a perfectly normal trait, for the same rule holds in general of all persons, old or young. All require some evidence of success that is generally appreciable. The good that one gets out of a course of study as a reward, regardless or in spite of the marks received, is an ideal toward which all should strive; but no teacher in any grade of school is justified in assuming that it exists in any student. Even though a student does not succeed, he desires some indication of the extent of his success or failure.

The *impulse to strive* is a most marked and interesting characteristic of childhood. It is a peculiarly human trait. Heredity has fixed the extent to which animals may rise; man has risen against the force of gravity and lifts his head toward the stars. No one can predict the direction or extent of man's future achievements. The impulse manifests itself early, for instance, in the infant's strenuous efforts to hold itself erect. These early steps in development are the aspiring kind, not done to win over another nor to gain honor or respect, but to outdo a former achievement. Although no moral motives are attributable to it, this highest form of striving is common among children. As beating one's own record is a high form of striving, emulation simply to win over some perhaps hated rival is a low and unsocial form of the same impulse. Ambition, "the last infirmity of noble minds," in which social approval is the satisfaction sought is also lower than aspiration purely for personal excellence. This is the ideal that must be held uppermost in school life. It will not be necessary to try to do away with all rivalry. Competition is a wholesome stimulus in play and work. However, striving should have

its final illustration in the effort to improve one's own record.

It is familiar to all how well athletic games foster the impulse to strive and how little strenuous effort ordinary mental work in school calls forth. This should all be changed. There should be contests in skill, powers of analysis, and endurance in the intellectual field as well as in the physical.

- If there were goals set in the effort to sit still and concentrate attention to a chapter in a difficult book, the young mind would be eager to respond. It is seldom that one hears a teacher tell children how they shall treat their minds to make them grow strong and how they may dissipate their energies. But this is just as much in place as to tell them how to make their bodies strong. If definite goals adjusted to their stage of advancement are set in the mental field they will take pleasure in striving to reach them. And there will be no more danger of overstrain than in physical games, because in intellectual striving the impulse is also a natural one and a sign of healthy functioning.

The Direction of Development. In all the normal tendencies enumerated in this chapter growth is by activity from within outward. This is true whether the goal of effort is physical or mental, whether the exercise is a foot-race or a spelling-match. In either type of exercise, whether it be a test of mind or body strength, the attention is focused beyond the self; it absorbs the powers of the self, is not divided between the self and another object. There is no clearer picture of the healthy functioning of the mental powers than the activities of a normal child of pre-school age. It is the part of school management to foster development in the same direction as the child continues its progress through the grades.

CHAPTER XIV

PROBLEM OF THE EMOTIONS

Study of the Emotions. The emotional life is the fundamental determiner of character. We differ from one another in the number and variety of emotional responses, in their strength, and in the objects which are capable of arousing them. This is where lie the more striking as well as the finer shades of difference between individuals. A study of this difference in school children is within the peculiar province of school management. The grades of intelligence determine the curriculum and the methods of teaching; a knowledge of the emotional character of the children is the means of solving the problems of constructive discipline.

This is a difficult subject and there are no general rules of procedure. In dealing with children the teacher has, however, one advantage; they are as yet plastic and their emotional life is not covered up with a mass of social inhibitions which grow with age. But, on second thought, this is only relatively true. Children of the same age will reveal different degrees of the power of self-control. As they come to school on the first day they will respond in various ways to the new situation. As time wears on and the feeling of familiarity with the surroundings weakens the acquired inhibitions of behavior, more marked differences

will appear and new qualities of character will emerge. Some habitually show a tendency to think before they make a decision while others are impulsive. Some like to be conspicuous, others do not care to shine. Some profit by the mistakes they make, others repeat the same errors. Some are always eager to learn more, others are self-satisfied. Some seem self-possessed, generous, sympathetic, respectful, **interested** in their work, while others may be self-conscious, self-willed, morose, or they may exhibit other marked characteristics.

But however varied these manifestations may be, it is important to have in each child an emotive basis. The work of the school can be effective only when it can be made to spring from within, from the inner driving power of desire to be and to do. Many a child outwardly unpromising may be touched with an enthusiasm for high ideals. Strong emotions if not under control may be inconvenient and hard to manage in a schoolroom, but it should be borne in mind that the great achievements of the human race do not issue from a shallow emotional life. Much depends upon the impulses from within. These must first be present and then put under control by being directed upon a proper object. Given a capacity for emotions in any child, we can assume a source of power which will impel all the activities of the self. When not so excessive as to cloud the consciousness, emotions are individualizing processes; the ego is always sure of itself; it always knows who loves or hates or hopes or fears, and usually the object is equally clear. School management means providing opportunities for the self to become engaged with proper objects. When it repeatedly succeeds in this, the emotions are cultivated and

character is formed. This is fundamental to the aim of education; it is to the life of the spirit what health is to the body.

Personal Reactions. Whatever characteristics children may reveal, it is to be assumed that teachers are not to be governed by their own personal reactions to the behavior of the pupils. The question whether one form of conduct or another is desirable depends on its effect on the child's own development and that of other children. Nothing is forbidden by the teacher because "I do not like it" but because society has thrown restraints on certain forms of conduct. One must not get the illusion that only the pupils who are personally agreeable will profit by the opportunities the school affords. A teacher should strive to inspire enthusiasm for the work of the school rather than devotion to herself. On the pupil's side, however, personal reactions will control conduct. A liking for the teacher and the subject-matter are affections that cannot be sundered. Especially in the lower grades, the teacher will be loved, imitated, and idealized. Her enthusiasms will be catching, and the pupils will follow in her the mere appearance of activity and diligence.

Rational Attitude to Behavior. Instead of reacting to pupils in a personal way as if they were adults, the teacher takes a rational attitude to immature behavior. She remembers that the nervous system of children is normally in somewhat unstable equilibrium, that there are unbalancing forces within and everywhere around, that conduct although "three-fourths of life" is the most difficult art for old and young, that in their striving to be, children are often awkward and sometimes seem vicious, that they must grow gradually into a unity of control of mind and body, and that the keynote of modern school management as of hygiene is to build up as far as possible the powers of resistance against evil rather than to study the methods of cure.

Continuity of Emotion. Emotional reactions tend to be continuous in their effects after the experience which called

them forth has passed away or is forgotten. Thus a past state of mind may extend into the present and put one in a mood favorable to the task of the hour or it may be a disturbing force and lower efficiency. Children may come to school in a state of agitation caused by some harrowing experience at home. The teacher herself may bring into the schoolroom a feeling of dejection caused by something in no way connected with the work at hand. To throw off influences that are unfavorable to the needs of the hour is an exercise of self-control which the teacher should be the first to exemplify, for the good of her own work and to prevent the spread of the mood by suggestion to the children in her care.

This same principle is also illustrated in the emotional factor of "mental set." The attention focuses gradually before it becomes fully adjusted to an object of thought. Then the frame of adjustment tends to continue its state in the presence of new matter. This suggests that a quick transition from one subject of study to another would be somewhat disturbing. One cannot, for instance, leave an absorbing problem in arithmetic and at once take up a piece of literature for immediate appreciation. Poets recognize this principle of emotional inertia when they induce the proper mood for the main substance of a poem by means of an introductory setting, or atmosphere. On the same principle it is possible to ask thought questions in too rapid succession, especially when the connection between them is not close.

Affective Displacement. Since emotion tends to be continuous, when it is restrained it is often simply diverted or displaced. A boy on coming to boarding school became homesick at once. When asked whether he liked the place, he pointed to clouds in the sky beyond his window, whimpering, "I don't like those clouds out there." The boy

ascribed his feeling to the clouds, suppressing the idea that he was homesick. This illustrates the well-known fact that unpleasant emotional effects are referred to what is not their real cause. Disagreeable emotions due to failure in school work are attributed to the teacher or anything else related to the school, the subconscious assumption being that the self is not at fault. Instead of applying himself to the task, the pupil will make various excuses; he does not know how, the teacher has favorites, there is not enough time, the books are not satisfactory, etc. On the other hand, if the child succeeds everything else is satisfactory. Success in one thing will often make other studies endurable. It is a good principle to make sure of interesting a child in at least one of the activities of the school; it may be constructive work, athletic games, nature study, drawing, or some other study. In time the interest will spread to all that pertains to the school.

The Unwilling Pupil. If a child cannot find anything in school that is satisfying, nothing will be done with the will to succeed. An unfavorable attitude is set up. With some children matters grow worse as the weeks pass. They go to school because they have to. They are slow to learn, know it, have no regrets, and are always impatient for release from the hours of school work. They may have spirit and be openly rebellious or they may be passive under the yoke. They may actively resist education and use remarkable ingenuity in making a safe escape from the work assigned. They look forward to holidays, try various schemes to get away before the actual beginning of the vacation, often ask to be excused early in the day because they are "wanted at home," etc. If they could be led to acquire

one absorbing interest in the school, there would be a complete change.

Emotion and Object. Emotions are pleasant or unpleasant, simple or complex, exciting or depressive; some are more fundamental than others and appear outwardly more powerful, some have a marked effect on organic functions. But in themselves they are neither good nor bad. It is good to hate a bad thing and it is bad to love a bad thing. The proper objects of emotional regard are largely a matter determined by our social inheritance, which every child may learn of in the home, the school, the church, in customs, language, literature, and art.

Development of Likes and Dislikes. In the home, the school, and especially in the free activities of the playground where many children of about the same age meet, there will be opportunities for personal relations to bring out likes and dislikes. An early conception of a bad boy is one who is not nice to play with, who hurts you, or interferes with you. This may be reënforced by standards of conduct that are inculcated in the good home, as illustrated by a boy who played in the home yard with a neighbor's lad of the same age only so long as the boy from across the way used proper language. Whenever he was tempted to use bad words his companion stopped play at once, took him to the gate, and bade him go home. In no other way than among children of about the same age engaged in free play will standards of conduct emerge more clearly for personal approval or disapproval. In this stage of development all ideals will exist only as living embodiments.

Animals and Flowers. Children seem to recognize early in life a kinship with flowers, and they look upon animals as

friends and companions. They bring out emotions of a kind that need to be aroused and exercised at an early age. Normal children are never selfish with their pets and they soon learn to endow flowers with the finest human qualities. This is especially the case when they can have them for their very own and are allowed to care and provide for them. Thus opportunity is also afforded for exercise of the emotions aroused, in outward action. The result of all this will be an attitude of kindness to all animals and pity for the weak and helpless before the deeper human sympathies make their appearance.

Symbols. When children strive to rise to an ideal which they cannot fully comprehend, their emotions at first attach to its associates and symbols. The young boy desires to be a policeman; he does not comprehend a policeman's duties, but he is charmed with the blue coat and bright buttons. As he looks over the pages of a history he admires the general with epaulets and gold lace rather than the statesman in conventional dress. He likes to wear badges, medals, and decorations on his manly breast. They are points of attachment for his admiration until he can comprehend the meaning back of them.

For young and old it may be impossible to grasp the abstract idea of Our Country but they all thrill to the Flag. The symbols of patriotism and religion have aroused in many with only a vague idea of their meaning a devotion that proved faithful unto death. The motive of symbols and emblems has been widely used for educational purposes and with satisfactory results.

Good and Evil. For most persons as well as for school

children the ideas of good and evil must be embodied to make them possible objects for the exercise of emotion. Living characters serve the purpose more readily than those that have passed into history. The latter must be reconstructed and related to the present to make them appreciable. This makes demands on the art of portrayal and the power of interpretation. Moreover, the good, whether in contemporary life or in the past, is not so impressive as the evil. Evil is exceptional, unexpected, spectacular, and sensational. It excites the imagination of the young. It fascinates the writer so that the villain of fiction becomes the center of interest. Boys take to the bad habits of their elders largely because they are so easy to imitate. Good conduct, on the other hand, is in its nature rational, orderly, restrained, according to law, predictable. When all the characters of a story are good, it cannot command interest throughout except as a matter of duty. Besides, to be true to life, fiction must present both good and evil.

How can a child, or any one else, profit in the contemplation of both kinds of character? Whether in life or in fiction the process is the same. If the matter is presented in such a light and so perceived that the good will be admired and the evil condemned, the two contrary emotions will have the same moral effect. And since one can see only himself in any kind of character, since he can in no way understand another person but by the measure of his own experiences of the same general kind, what he comes to admire or condemn with all the force of his emotions is what in his own life of a similar, not necessarily identical, nature is admirable or damnable. Thus in the contemplation of

the characters of literature and life, one nourishes the good in himself by exalting it and purges away the evil by loathing and disgust.

In the religious tradition the Great Exemplar represents the devotee's ideas of infinite perfection, which without the objective ideal would be more vaguely conceived and less effectively striven after. In good or ill, the object loved transforms the lover into its own image.

From the classic literature read in all the grades, which has been preserved from oblivion by many generations of readers, school children should derive proper attitudes toward the good and evil impulses of life.

Emotional Excess. When judged by adult standards children usually manifest a certain lack of emotional balance. Childhood is the normal period for the rise and decline of the self-regarding emotions. In a normal development under proper home and school influences, they are to a certain extent outgrown just as physical weaknesses and disproportions are outgrown. Usually individualistic tendencies are so strong that they need little if any encouragement. The "spoiled child" has had its ego too much indulged. It has been the center of interest at home for so long a time that in school it manifests an expectant attitude for all kinds of preferences and favors. This exaggerated self-feeling cannot be ruthlessly stamped out; it must be gradually transformed. When this is not done in early life, there will remain a settled self-contemplative egoism for the maturer years that will cause its victim much disappointment and sorrow.

When the ego-centric disposition takes the heroic and defensive form, much might be said in its favor. Funda-

mentally it is valuable as making for responsible behavior, for backbone, for the will to be counted as an individual against hosts of opponents if need be. But when exaggerated it means a watchful guarding of the precious self, a suffering sensitiveness to all kinds of imagined slights and affronts. The child looks for, waits for trouble, and usually finds it.

When this same tendency takes the aggressive form, the child becomes a bully among his weaker playmates. The little children are in constant dread of him. Presuming upon his superior strength he goes about seeking those whom his vanity can devour. If the smaller children do not obey his commands, he hurts them by bending their fingers, twisting their arms, pinching, and beating them, and threatens them with dire harm if he meet them alone. In this form of excess one is tempted more than anywhere else to think of corporal punishment as the proper curative agency. If the distemper does not yield to persuasion, it seems to present a clear case where sparing the rod spoils the child.

The Law on Corporal Punishment. Sometimes children defy all authority because they know that the courts protect them against corporal punishment. The rules of the board may state that no teacher shall administer this kind of chastisement upon any pupil in the school, and there may be no special school for incorrigibles. Or the law may read like that of the state of New Jersey: "No principal, teacher, or other person employed in any capacity in any school or educational institution, whether public or private, shall inflict corporal punishment upon any pupil attending such school or institution." Or if there is no specific law on the subject, the courts may be known to class corporal punishment as assault and battery committed by the teacher upon the pupil. This is not favorable to the best order and the highest efficiency of the schools.

It is not intended here to advocate indiscriminate corporal punishment, but it is not fair to the teacher to remove all doubt that it will under any circumstances be inflicted. Enactments such as that of the new state of Arizona do not withhold the power of punishment from the teacher, only stating, however, that "violence to a person shall not constitute assault and battery in the exercise of moderate restraint or correction given by law to parent over child, guardian over ward, or teacher over pupil." The Montana law reads, "After notice to parent, teacher may inflict corporal punishment, but in case of flagrant defiance such punishment may be inflicted without notice to parent."

A Study of Cases. When the law does not limit in advance the means of corrective discipline, there will be possible a range of consequences that may become very interesting to the willful offender. However, every case should be studied, if its disposition can be deferred. Waiting for a long period of time in the teacher's office while an investigation is being made with the final decision in suspense, is an experience that no juvenile culprit courts. Studying each case separately also gives an impression of judicial fairness and leaves the teacher blameless. But a child may have grown so far in the wrong direction that to bring him back without force may be a slow and impracticable process. For instance, take this actual case reported by a teacher:

Boy in the eighth grade, fifteen years old, only boy in the family, naturally bright, favored and spoiled in every way by father, mother, and sisters until they lost complete control over him. If denied any favor or privilege, he teased and coaxed, then became so violent of temper that the family gave in to him to prevent his doing them personal harm. In school he had, almost from the first grade, been hard to control and as he grew older seemed more determined to have his own way. When he reached the eighth grade he had become openly defiant to authority and was con-

stantly on the alert to cause trouble by assuming a noisy manner, smiling scornfully at rebuke, or answering in an insolent manner, making noises with his feet, hands, or mouth, talking in an undertone to himself or those around him and in every way distracting the attention of the class from the work in hand. In the teacher's efforts to control him there was never at any time any support from his home.

What is to be done in such a case? It might have a sobering effect on the youth to learn that he was being studied. Referring to a preceding chapter, one might follow the classifications given there and by the method of elimination find the trouble. Even though the boy passes for bright, intelligence tests might be attempted by a psychologist. If the average results do not indicate mental deficiency, they may point to a decided lack of mental balance. If there is any doubt an alienist might be called in consultation. One should suspect, from the symptoms given in the description, moral imbecility. If not, his true place is in a school for incorrigibles. To let him remain in an ordinary school is an injustice to the teacher, a wrong to the other pupils, and is not for his own good. If he must stay in school and cannot be reached by gentler methods corporal punishment seems the only recourse left.

There seems to be general agreement among authorities on child training from the gentle Pestalozzi down to our own time that there are extreme circumstances when the best that can happen to such a child is this kind of restraint. A callous and headstrong disposition can at times be checked in no other way. Without it the youth will continue to live in a sort of romantic world of his own fashioning, untrue to actual life. He needs opposition in the form of

pain to reawaken in him a sense of the sober realities of life.

But conduct arising from excessive timidity and a shrinking sensitiveness should never receive any form of punishment whatever except its own unavoidable consequences. On the contrary the *sense of personality must be fostered* and not crushed. It is the main ingredient of self-respect. This must be jealously guarded. The wise teacher will not violate it. She will not exact obedience for the sake of obedience. Her attitude will be a constant recognition that she is dealing with an individual with views and opinions of his own. This will in turn arouse in the child a feeling of responsibility for his reasonings as well as his conduct.

Excessive Fears. One of the common illusions of adulthood is that children are care-free and happy and have but a shallow emotional life. The sorrows of childhood are real and that they may become serious is shown by the fact that suicides among school children have not been uncommon in Germany, for instance, and are by no means unknown in other lands, including our own.

It would not be desirable, even though it were possible, to prevent all the griefs that come in childhood, for the pictures that experience throws upon the screen of the soul must have both light and dark shades. But the lives of children of the emotional type are often made wretched by harrowing fears.¹ It may be the fear of pain, of ridicule, of humiliation, of the powers of nature, of wild animals, the supernatural, death, everlasting punishment in a lake of

¹ Hall: "A Synthetic Genetic Study of Fear," *American Journal of Psychology*, Vol. XXV, pp. 149-200; 321-392. See especially *Shock and Pavor Nocturnus*, p. 172ff.

fire. From whatever cause there may be disastrous effects on the mind and health. It is a well-known principle of physiology that pleasurable emotions tend to quicken the processes that are of advantage to the organism, while long-continued distressing ones tend to interfere and arrest these processes. Besides, violent emotional reaction in the young tend to disturb the growing powers of association, causing more or less permanent mental injury. "Much of the self-consciousness, introspection, neurasthenia, hypochondriasis, and hysteria which is noticeable in adults may be traced to the effects of fear in early life."¹

Children Conceal Their Fears. In many cases, perhaps in nearly all of them, children keep their fears concealed, giving no sign of their existence to others, for they have learned that telling about them invites ridicule. Many grown up persons recall to this day the objects of their childhood's fears and even still retain one or two "favorite" ones to which they give considerable attention. A glover's sign in the shape of a huge hand is said to have terrified Oliver Wendell Holmes.² Sir Walter Scott had a superstitious fear for statuary of all kinds. Miss Martineau says: "I was as timid a child as ever was born; yet nobody knew or could know the extent of this timidity; for though abnormally open about everything else I was as secret as the grave about this. I had a dream at four years old which terrified me to such an excess that I cannot now recall it without a beating of the heart. The horrors of my nights were inexpressible." A magic lantern was her pet

¹ Guthrie: "Functional Nervous Disorders in Childhood," *Oxford University Press*, 1907, p. 38.

² Guthrie: *op. cit.*

terror. Charles Lamb says, "I never laid my head on my pillow I suppose from the fourth to the seventh year of my life, so far as my memory serves in things so long ago, without an assurance, which realized its own prophecy, of seeing some frightful specter."

Fear as a Means of Discipline. Fear of consequences is nature's own regulator of conduct. It prevents the repetition of harmful experiences. To this extent fear is a part of the world's wisdom. As a means of discipline it is harmful when exaggerated or when aroused by a figment of the imagination. Parents tell their children of monsters that will come and get them if they are not good. When the parent pretends belief in such a being he only postpones the real problem of discipline to the time when the child discovers the deception. But there is another bad feature; the parent suggests that a malevolent power is allied with him against the child. If the effect of such a threat is sufficiently strong to influence the child's conduct, it is probably harmful; if there is no effect, it is useless.

When children are old enough to conceive its meaning, fear of failure may be the monster that threatens them. But this is a real danger in a school where honorable standards are observed. School is and ought to be just like real life in this respect; neglect has its penalties everywhere. There is nothing unnatural or harmful in a child's fear of an examination which is not beyond its powers; it operates a long time in advance and stimulates caution and systematic preparation. To happy-go-lucky students who do not seek an education but only a passing mark, this fear is indispensable to success. Fear is dangerous, however, in any case when it becomes excessive. It is uneconomical, too,

when it unmans the student and beclouds his understanding. Then the fear of failure becomes the cause of it. Some children are very conscientious and only too sensitive to the dangers that lie in wait for them. To play upon their fears in aid of discipline either in the home or at school does more harm than good.

From much fault-finding and scolding children become fearful of the results of any work they may undertake. In this attitude of mind they come to school as indifferent to praise as they are sensitive to blame. Such children should be taken in hand by the teachers and brought out of the despair in which they live.

Cases reported:

A pupil was mildly reproved for neglecting to bring a dress she had finished to school. She took it so to heart that she wept bitterly and could not meet the glance of the teacher for days.

A child could not be called on to recite without showing marked signs of fear. She seemed afraid to be heard, although she knew her lessons. The teacher investigated and found the home life unpleasant.

High school girl, never hopeful, never gay, always looked on the dark side of life. She was so sure she would not graduate that she did not get her dress for the occasion until a few days before commencement. Even after the principal told her she would get through, she hesitated to believe it.

Fears Dissolved by Understanding. These children came to school and continued there in constant fear of failure and expecting nothing else. To the teacher who investigates, the causes in the home life of such a state of mind may be clear enough, but the pupil herself is clearly conscious only of the paralyzing effects. The unpleasant experiences have continued for so long a time that, as is usual in such

cases, the morbid sensitiveness takes a large place in the consciousness and prevents an understanding of the whole situation.

How can a teacher dissolve fears and reestablish confidence in the pupil's self? By bringing about in the pupil an understanding of the causes, conditions, and consequences of these particular fears. The very fact that the children suffer from this kind of neglect is an indication of their craving for approval and sympathy. This suggests the first step to be taken to restore the pupil's confidence. After a relation of sympathy has been established, the conversations that follow will gradually reveal the causes of such a state of mind. It will also become clear that the mind is the more immediate cause and is itself to blame for the fear of failure. Fear cannot exist, unless assented to and entertained. It becomes a self-imposed obstacle to success; for what success one has depends on how well he does his work and not what some one else may say or think about it. When fear becomes a hindrance it is unreasonable. It can be overcome. One must believe it can be overcome and at once assume the feeling of confidence.

If the younger children are unduly disturbed by excessive fears, it is possible also to remove them by explanation and understanding. In such a case the teacher or parent may tell stories of her own childhood with its groundless fears, of the cause of dreams on account of illness, of happy and helpful fairies too little to be feared, of the cry of a ghost-child heard in a near-by field that came from the old house-cat, and other incidents that will make good stories and at the same time show that there is no conspiracy of evil to destroy innocent children. Young children may conceal

their fears, but so long as there are no obvious disturbing effects from them they can do no harm. It is good to know something of fear for a proper fullness and balance of the emotional life.

Anger. Another of the troublesome emotions encountered in the school and the home is anger. In many cases this seizes upon a child and makes him lose control of himself. A very trifling matter may cause it. In general, the child wants something and is hindered from getting it; this causes a welling up of the passion. It is an old and common practice to still a child's rage by quickly thrusting a toy into his hands. The object is to stop the crying, and it usually succeeds. It may be explained as a diversion of the attention and the aroused emotion into a channel of a less disturbing form of motor activity. In the schoolroom such seizures may be diverted in the same way by quickly inducing some other form of activity. If this does not succeed the child should be taken out of the room until he has calmed down, for it is better not to have a "scene" in the presence of the other children who will lose their own composure by it and come under its suggestive influence.

Violent outbursts of anger are always interesting. Children look on in awe if there is any possible reason for fear, or with growing amusement if the spectacle is often repeated and harmless in its consequences. A child may be teased by playmates because they want to have some fun; they want to hear his eloquent profanity or see the play of passion on his expressive countenance. The teacher may also well bear in mind that if she herself can produce on occasion a lively example of spectacular wrath, there will always be a few children who will be interested to see the

performance repeated. There can be no doubt that persons are teased for amusement, and that teasing stops when amusement ceases. When a child is old enough and can be brought to see its passion in all its course as others see it, the emotional extravagance will come under the dominance of the understanding and will gradually disappear.

As reported to the writer by the principal of a school for incorrigibles, a severe case of violent temper was relieved in the following unusual way: the principal told the boy why he was committed to his care, explaining that so long as he could not control his anger he was handicapped for life. Then the principal said: "I will now ask the other boys to make you mad and I hope to see you do your best to control yourself. See, now, whether you cannot be a man and master your temper regardless of what they may say or do to you." The principal was present at the "trial." The tempters made their plan and gathered in a group on one side of the room and faced the boy. They improvised a taunting mimicry of a member of the boy's race representing an organ grinder with a monkey. The boy's ire rose at once, his limbs trembled, his fists doubled, his eyes blazed, he breathed hard, but he stood still — a complete picture of the passion. But very soon he regained composure and became calm. He won. The principal asserts that as long as he knew the boy the fits of violence did not return. Always afterward he was a good fellow. He came to know the passion, "looked down" upon it, and controlled it. But the method used cannot be generally recommended to all teachers.

Nervous Instability. Instead of a disturbance that affects children only occasionally, but profoundly, there may be a constant state of nervousness with a slow waste of energy going on day and night. This kind of child responds to stimuli too readily, is over-alert, acts impulsively, is quick to answer questions without taking time for orderly association. Instances of this type are to be found most fre-

quently in crowded city districts. Sometimes a majority of the class become afflicted with the disorder by suggestion from a few. A vivacious teacher overstimulates them. In response to a question they rise from their seats, wave their hands, and snap their fingers for attention. Their answers are little better than guesses. Sometimes these guesses are right, and for a time the school work goes on like an interesting game, a sort of gamble as to who will hit the mark and win the approving smile. Mental effort is related solely to discerning by surface signs what answers the teacher may want. An exercise that represents profitable work can be carried on for only a short time before interest lags and attention wanders.

The disorder is sometimes associated with high intellectual endowment, but stimulation of interest soon leads to fatigue and reactions unfavorable to school work. It is also indicative of inferior mental character as manifested by flightiness of attention, poor memory, and weakness in the power of abstraction. There is always a tendency to motor restlessness, the child cannot sit still; there is a tendency to play, to bother somebody, to handle something. The effort to think is attended with difficulty; some sort of motor support seems to be needed; to hold attention to the matter under consideration, it becomes necessary to drum with the fingers, to handle a pencil, to swing the feet, or to chew gum.

Like symptoms may also be observed in normal children on "off days" after exhausting social diversions.

Influence of the Teacher. What is to be done in such cases? They are as puzzling to the school physician as to the teacher. The influence of the teacher, however, is most

important. Since we know that a manifest disorder like this may spread so that in time a whole class may by unconscious imitation affect the mannerisms of a few, the principle of suggestion may be relied upon to work also in the opposite direction. The teacher must be the very opposite of the nervous child. She must of all things not be nervous herself. The child will gain by the teacher's calm and restful manner. She will be careful not to overstimulate. The tempo of the recitation must not be too slow or too fast. There must be a suggestion of order and calm in the surroundings everywhere. The teacher will not become personal nor important and explosive in manner. She will not wander away from the subject-matter. Everything done must suggest the power of coördinated and unified action; this the child lacks. The teacher must have perfect control of herself first, and second, of the whole classroom situation. If the school cannot be a corrective influence in this kind of disorder it is likely to do more harm than good, and the child had better not go to school at all. The condition should be relieved in any particular instance as soon as it manifests itself, not alone for the sake of the victim but also for the sake of those who are likely to come under its influence. Nervous, fidgety children should be given an inconspicuous place in the room, rear seats, so that their antics may not always be in view to affect the behavior of normal children.

Excessive Inhibition. Stubbornness is sometimes admired as showing strength of will and character. This is an error. It is not an active characteristic, not the result of normal deliberation. Inhibition sets in before reflection

begins. In its pure form the spell is not broken by a violent outburst of emotion; it must wear itself away gradually. Different methods of dispelling the disorder have been tried by teachers. Corporal punishment has been resorted to, but this is not at all a satisfactory way to cope with it. A mild form of it may sometimes yield to reproof and a show of authority on the part of the teacher. A severe case of the kind reported by a teacher, was cured on the principle of "natural punishment." According to this method the matter is so managed that the pupil will suffer the natural consequences of his behavior.

Alice aged 11 came from a home where conditions were bad. She was always terribly beaten by a brutal father for the slightest offenses. In school she one day suddenly decided to do nothing required of her; kept her seat when others recited, refused to answer when spoken to. She made herself a social oddity in the school and the teacher decided to let her have all she wanted of her assumed character. She was let alone. After some time the other children became curious and asked the teacher why Alice did not recite with them. The teacher simply answered that Alice did not want to. The children soon forgot about her in their activities and also made up their games with Alice left out. In the meantime the teacher spoke kindly to the girl whenever there was occasion for it, but in no way recognized her as a part of the school life from which she had separated herself. One day Alice brought the teacher a bouquet of flowers, but this made no difference in her school status. Another day she came to the teacher and whispered, "I want to be a good girl now." She was fully restored to her class and gave no further trouble.

Summary. In this chapter we have carried the question of how children differ into the field of the emotions. Here lie both cause and effect of character. The reactions of the

children to each other, to the teacher, and the subject-matter, and the teacher's reactions to the pupils are of vital importance in the problems of school management. Since emotions tend to be continuous, their causes are likely to be displaced. This becomes a fertile source of misunderstanding, therefore, when the emotions are unpleasant. To induce unobtrusively the right kind of responses to proper objects is a test of the highest skill in school management. When emotions become excessive and are harmful to the child and disturb the good order of the school, they require especial attention. Moreover, each child should be studied as an individual; if possible before anything has happened that needs correction. This is in accordance with the principle of constructive discipline. Specimen cases have been cited with the intention that they may serve as "studies" and not as giving rule-of-thumb methods of procedure. As a general principle it is suggested that, as in excessive emotions there is loss of control because "he does not know what he is doing," so restoring an understanding of the whole situation will probably restore control.

Usually persons with a capacity for strong feeling are also of high mental endowment in other respects. The emotional temperament under control is a most desirable element of human character. "Without it all would be reduced to the same level of dullness and mediocrity. The creative faculty in art, science, and literature depends upon imagination and upon emotional susceptibility. It is probable that no advance and no reform since civilization began has ever been effected by any one bereft of emotional capacity, and therefore if on recognizing this temperament in early childhood when emotions are most keenly felt and

their effects are indelible, we are able in any way to guide and modify it by cultivating reason and common sense, and intelligent sympathy, we may do good service to mankind.”¹

¹ Guthrie: *op. cit.*

CHAPTER XV

FACTORS IN SELF-CONTROL

It is entirely proper and commendable to study the behavior of exceptional children for the good we may do them. But the teacher has in mind another purpose besides. They present possibilities of disturbance all out of proportion to their number. They give exceptional trouble. One pupil incapable of self-control may exact more attention than all the others combined; one thirtieth of the children may consume two-thirds of the teacher's energy. Hence a study of the few will in the end be of service to the many. We think of self-control as particularly related to the good of the social whole.

The Self-Controlled. If it were not for the fact that the larger number of children are tractable and quiescent, school management would present insuperable difficulties. Simply as concrete examples such children become a factor in the self-control of the erratic and unbalanced. But these children are also relatively unemotional and cannot be so easily aroused to supreme effort. They are not much afflicted with "the divine unrest." They have only ordinary ambitions. They sleep and eat well with perfect digestion. They study, but never to the point of personal discomfort. They are not without emotions but have an affinity for the pleasurable kind. They live in the present, spend little

time with regrets and indulge in no vain expectations. They are satisfied if they can pass their studies, and do not envy the prodigy at the head of the class. In general they are conservative, with an eye for the solid and substantial comforts of real life. They do not dream of distinction and greatness to come, of triumphal tours and ovations from the multitude. They will always be in line with school requirements but particularly interested in minimum essentials and somewhat suspicious of what seems to them impractical. They are willing and obedient, but not deeply interested. They present no problems of discipline, but they are also never destined to be a source of pride in the achievements of teaching.

There is, to be sure, a number in every group of children, relatively small, who seem to have all the desired qualities. They are self-possessed, of equable disposition, quick to observe, ready to learn. They are unselfish, adaptable to every situation, and pass with the highest marks. Their life is pleasant, everybody speaks well of them, and yet they remain unspoiled through it all. But even here there is another side. These persons sail smooth seas but they know little of resistance. Satisfactions come to them as they go along; they are not tossed by the storms of baffled ambitions. They experience no limited successes in school life that hurt their pride and make them summon all their energies to surpass all others in some future achievements. In school they excel without trying hard; they may lack initiative and force afterward.

Study of Means of Self-Control. It is a generally accepted principle that growth of control is from within and not through compulsion from without. Forcible repression

is easier and more immediate but its results are lasting very often only when they are unfavorable. But how can self-control begin and continue? How can a child learn to use those elements of its original nature which are at the basis of character development? What are the factors that tend to unify the self and adjust it to the environment?

This is the source of the guiding principles of school management. One of the factors has already been referred to several times in the preceding chapter; the intellect is helped to gain a view of extravagant manifestations and then puts them under restraint, just as a child quits crying when held up to a mirror to see itself. But control from within cannot take place before there is a sense of self. To form the self the child first goes through a period of intense individualism. This is essential to the future altruistic goal of character. Unless a person knows himself as an individual he cannot put himself into the place of another. He cannot know how to do unto others before he has a conception of how he would be done by. High character is always strong character with power to stand alone if need be. But "Thy neighbor as thyself"—self and neighbor, the individual and the other self are the twin bases of human character. Of the first the child knows much in a narrow way before coming to school, but it has not yet arrived at an adequate conception of the second. How can it bridge the gap?

Instinctive Support. Social experiences are at first interpreted in terms of individual value in order that more and more individual experiences may be interpreted in terms of social value. In the desire for companionship there is a deep-rooted individualism. Animal species became gre-

gamous for the sake of individual protection. Alone they were lost, together they were safe. The group spirit was nourished by repeated success in repelling attacks. Satisfaction with positive group achievements gave rise in the end to the spirit of coöperation. More and more collective purposes became central while mere self-satisfactions fell into the background. Desire for recognition and approval by the group or its leader remains strong, especially in children, and it should also be recognized as a factor of support to the self in its endeavor to reach the higher goal. Appeals to the inherent desire for companionship, for coöperation, for approval — half individual and half social — are among the means to make grow from within the child the power of self-control in the school environment.

Desire to Be a Man. As children grow in social experience they lose much of their native instability and gradually take on more of the settled composure of their elders. As every one knows the children of the lowest grades are relatively spontaneous and naïvely expressive. However, by the time they pass the third year in school they develop a growing aversion to the characteristics of childishness. "Don't be a baby" becomes a strong deterrent to outbursts of individual ill-will. This is the time when the teacher's appeal to the little man and little woman in the child becomes especially effective for discipline. It is interesting to note, too, in passing, that about this time the most opprobrious epithet that can be applied to most boys is anything that suggests effeminacy. To be called a "sissy" may bring tears of resentment and rage. On the other hand, a girl does not object to being called a tomboy.

It is particularly valuable at this time to manifest confi-

dence and assume that the child will do the manly part. At this time also school work should seem worth while. It is safe to assume that the children want the kind and amount of work that will test their mettle. Soft pedagogy and sentimentalism seem out of place here more than anywhere else and especially fatal to the interest of boys in school work.

A Controlling Interest. It is well known that work or business has a stabilizing effect on a man's character. Men and women can keep themselves in hand when they have a special interest in the concerns of life. The same is true of children. A dominant interest unifies the self and gives it point and outward direction. To grow up into adolescence with nothing in particular to occupy the mind leaves it open to all sorts of temptations. Youth is particularly the time for active interests in such fields as athletic games and civic and social service.

In some pupils control follows the more purely intellectual interests. They are not intensely practical and seem to enjoy thinking partly for its own sake. They are inclined to be analytic; they like to look at the inner constitution of things. They are willing to while away time in study; a problem or puzzle is a challenge to their type of mind. Moreover, they are likely to be bored by the humdrum interests of the ordinary pupil and will soon tire of what seems perfectly obvious, and concentrate but poorly on matters of practical value. Among them we should expect to find the inventor, the explorer, or the research scholar of the future. They are often neglected in school for the mediocre many. Unless the teacher is resourceful and fully alive to the needs of this type, the school will of-

fer too few opportunities for intellectual adventure and may do harm to such a pupil if compelled to stay in it.

Self-Control and Leadership. Some children are at their best when they can take the lead. They take satisfaction in planning, managing, and bringing things to pass. But this is so valuable a means of growth that it should not be always reserved for those who manifest the greatest desire for it.

It is not so important for a pupil to have a sense of mastery as it is important *not* to have a feeling of incapacity for any kind of subject-matter. The elementary school in particular is not the place to ignore weaknesses and develop special abilities. It will be best to remove, if possible, all causes of the feeling of incompetence in any of the elementary school essentials. If a child is weak in arithmetic and strong in history, for instance, if quick to solve exercises but slow to analyze problems, the lack should be made good. Specialization comes later.

Imagination and Character. To conjure up a clear vision of a distant goal, to idealize results, and to anticipate satisfactions of attainment, are all the part of the imagination in stimulating and organizing effort directed to some end.

When imagination is weak or immature a distant goal is not envisaged and effort must be immediately rewarded. Young children want what they want "right now." Long deferred satisfactions cannot be anticipated. Present comforts obscure the attractions of the future. The lowest goal of effort is immediate material good. The dog leaps high because of the food held up in the hand of his master. When a child cannot appreciate the higher motive, a lower

one is in order. To conceive of virtue as its own reward and study for its own sake is not possible to any school child. One cannot expect, for instance, that a child will be punctual in the morning for the sake of punctuality. He may come early to engage in play or to satisfy his curiosity or to win personal approval or the sign of it in a beautiful engraved card with his name inscribed upon it, or he may have been punctual so often that he has the habit which it is hard to break. Ordinarily it will be hard to yield the present comfort of a warm bed for any deferred higher satisfactions. In such cases the attractions of the school may have to be reënforced by the parental *vis a tergo*. When children are too young to appreciate the ultimate good of regular attendance, they must accept the advice of those who can. The plan of frequent promotions is a spur to the efforts of children who cannot a year in advance conceive the pleasure of passing and the distress of failure. Signs of progress must mark time for them as the weeks pass.

Power to resist present delights and live laborious days for idealized future good, is, however, one of the higher purposes of school training. To appreciate and strive for what is best in the long run should be the chief concern of all. School practices should teach step by step that there are higher things to strive for than immediate material good or money or things useful or things beautiful or rewards of merit or certificates of promotion or individual preferment. These are at best but temporary supports to those that need them, steps on the way to a higher ideal of service.

Imitation of Ideals. Living characters in a community are likely to be admired and imitated whether they are

worthy or not. Under their influence children think they know what to do and how to conduct themselves. Ideals in fiction and biography make greater demands of the imagination; it is difficult without suggestive help from teachers to appreciate the good in them. Under the influence of the admiration they arouse, the child takes on by unconscious imitation the point of view and general tendencies of these originals; this may be followed by voluntary translation of these tendencies into outward action. The influence of ideals may remain subjective and may not be realized in action; or it may remain superficial as mere acting, in which the feeling basis as well as behavior is simulated.

The Critical Point of the Imagination. "The free imagination of wished for things results well for the mind through painting in more glowing colors the excellence of what is wished for, and firing the ambition to strive for it the more intensely." In Miss Bryant's novel, little Jim Hibbault trudged along by the side of his exhausted and self-immolated mother: "I'll make roads when I'm big," he told her, "real good ones that you can walk on easy"—a vision of countless toiling human beings traveling on his roads all down the coming ages, knowing them for good roads, and praising the maker. And such roads we know he did build, not only for people's feet, but for their lives. No possession is more precious than the power to create such visions, so long as it gives stimulus for putting them into action. But the case is not always so fortunate.

"Physics teaches that if a substance be subjected to different forces, such as temperature or pressure, critical points are reached, that is, points above and below which the properties of the substances are greatly different. Water has critical points at 32°,

where it freezes, or 212° Fahrenheit, where it changes into steam. Imagination acts similarly on character. It has a critical point where we cease to be fired by the imagination, but drop back upon it alone. Poets have sung the mental delights that may come from nothing but imagery; what is equally important is that imagination carries with it no dependence upon, or responsibility to, the external world. It is never kept late at its office, and runs up no bills. This fact, that daydreams are not continually confronted with experience, makes it possible for them to take on forms that do not fit the actual conditions of one's life."¹

Daydreaming. When thinking by means of ideas is as yet impossible on account of limited experience the mental life of the child is largely taken up with fanciful reveries. Where this is balanced by much outward activity with things in play and the child is not too much isolated from other children, it is to be regarded as one of the signs of normal development. But when there is too little objective experience the development of the imagination may come at an early age to the critical point referred to. In the overdevelopment of the tendency to create the fanciful, there come to be two worlds for the child: that for its necessary contact with daily life, and that of its pleasurable fancies. When contact with actual life becomes in any way distressing, the child falls back on its dream world. Here hopes, wishes, and even sensual desires may find psychic fulfillment. This world becomes more and more separated from the actual. The child keeps the secret, seeks solitude, avoids play and playmates, and in the presence of other persons is backward, confused, uncertain. To cope with the real world becomes more and more difficult. To correct the distemper it

¹ Wells: "Mental Adjustments" (Conduct of Mind Series), New York, 1917, p. 11.

must be taken in time and objective interests must be increased and intensified. Such a child needs the society of vigorous playmates, toys that invite activity, no stories, many plans for every day, "hiking" trips, and a healthful fatigue on retiring for the night so that sleep may be spontaneous and immediate.

For a child with very active fancies, the school should provide many opportunities for expression, for this is a way of keeping open the connection between the mental and the actual world. The children of the kindergarten and the lower grades should be encouraged to tell about their dreams and fancies, to draw and write about them.

Falsifying. Unscrupulous use may be made of a resourceful imagination. In typical instances the motive may be reward or profit or it may be to escape the penalty of wrong-doing. However, untruths may be told without any intention to deceive. When children are too young to distinguish the fanciful from the actual they may tell their fancies as truths. These are not falsehoods, properly speaking, and merit no punishment. Sometimes the wish is father to the fancy as in the following, reported by a teacher:

A little girl, an only child, invited me, her teacher, to call at her home to see her little baby sister just arrived. She said, "We are all crazy about it." So one evening after school I called and informed the mother of the purpose of my visit. The report was untrue. The mother asked how such a pernicious habit could be broken up. The child's excuse was that she wanted "somebody to play with."

This kind of prevarication is indulged in usually by children in the pre-school period. It is comparatively rare above the kindergarten age. The lie that is told to shield a

schoolmate or to protect companions against the schemes of an unfriendly group comes at a later period when the gang spirit exacts its tribute of honor and loyalty. The prudent teacher will not require treason to associates as a support for his disciplinary measures, but rather will manifest a hostile attitude to all sorts of "tattling" because he will know it to be a means of weakening the morale of the school. The strong teacher will not need the support of spies and gossips. He will be alert and wide awake to all that happens but will not play the rôle of the police officer or detective who assumes the existence of evils and spends his time in ferreting them out. There will be no temptation in his school to tell lies of loyalty or disloyalty to the gang.

The lie told to companions which exaggerates the strength or prowess of the teller will not long be troublesome, for sooner or later such a child will meet severe punishment in the mistrust and ridicule of his playmates.

The most dangerous of all lies told by children is one that offers an easy way out of a more culpable fault. When such a case comes up in school, the teacher will do well to take the parent into his counsel, and the two should give it the attention its seriousness deserves. The selfish lie is the basest of all, and it may appear in various forms. It is, however, not a common fault among school children. Opening exercises may be used to point out typical instances of honor and truthfulness and to explain why they are valued among men.

Summary. In all that has been said, there is one general dominating fact. It is the self-regarding emotions that undermine self-control. Anger, fear, nervous sensitiveness,

aggressive egotism, etc., disturb mental balance by exaggerating the importance of the self. The imagination is favorable to the character up to a certain point; only so long as it is unselfish. Perversion takes place when the imagination turns inward from proper objects outside the self and becomes self-indulgent and by its figments falsifies reality. Growth in self-control as well as in mental integrity is indicated in decreasing self-love and a lessened self-consciousness, "the two fountainheads of maladaptation."¹ When children develop normally, they gradually outgrow their self-regarding tendencies. Intellectual and moral development go best hand in hand. With a gain in the power of concentration, orderly association, and consecutive thinking, the teacher may expect a corresponding increase in patience and persistence in work, in self-reliance and self-control, in the power of initiative and the sense of responsibility. To train for moral integrity, the teacher needs to keep in mind only one simple rule: Think of other persons and things, never of the self and its fortunes and misfortunes. That this attitude is also favorable to the development of mental power and its control will appear in the next chapter.

¹ Wells: "Mental Adaptation," *Mental Hygiene*, Vol I, Jan., 1917, pp. 60-80, D. Appleton and Company.

CHAPTER XVI

MENTAL DEVELOPMENT THROUGH ATTITUDES

IN preceding chapters we have discussed initial impulses at the basis of character, emotions which disturb it, and factors which support or weaken self-control. We now come to speak of the habits and attitudes of a final character, such as the school should establish not alone for its own proper management but also for their value in life.

In habit an act is made easy by repetition. In attitudes we put the body in a position or the mind in a mood. This may be done in two ways: there is an active attitude which is favorable to a desired result, and there is a so-called attitude or inclination of consciousness due to repeated feeling reactions in view of certain objects of thought. When one puts himself into a pleasant frame of mind because he knows it to be favorable to the study of the lesson, we have the first. When from repeated feelings of satisfaction due to a teacher's approval of a pupil's good work, a disposition favorable to that kind of work is established, the pupil will like it. This gives us the second. The feeling reactions may be positive or negative, depending on the tone of the reactions whether pleasant or unpleasant. To arouse in the child repeatedly pleasurable emotions in the presence of a good thing or act, or aversion and disgust for what is bad, is to wield a powerful instrument in the development of char-

acter. This will leave a permanent disposition of the consciousness which will operate even though its effect may not reach the level of awareness.

Launching the Day's Work. The first thing to do is to establish an active *attitude favorable to the work of the school*. This does not have to be assumed; for there is to build on, especially in the morning, a normal impulse to activity which comes from an accumulation of energy after the night's repose. And then the morning air and sunlight on the way to school cause peripheral responses that make the blood tingle and add vigor to the energy that seeks release in doing something. All that is needed is to direct this activity in harmony with the prevailing mood into channels that bring satisfaction. If, however, there is an atmosphere of depression, if the teacher is slow and lifeless, this will tend to check enthusiasm for the work of the school.

The Cheerful Attitude. Between the cheerful and the depressing tone there is a marked difference in relation to efficiency. The one is generally favorable to work, the other unfavorable. Curiosity, eagerness to learn, etc., go with the feeling of good cheer, fear of we know not what and a general arrest of activity go with depression.

A favorable disposition, a feeling of confidence, will bring clear perceptions and fine discriminations. Without it effort will succeed but slowly and so slowly that the result will be discouragement and further depression. The teacher must look to the general tone of the school life. The depressing atmosphere must be dissipated. And this can be done on the part of the teacher by cultivating a sense of humor and by assuming the bodily attitudes which go with the more favorable emotions. The proper tone for work

and study will also aid in general control. It promotes a feeling of satisfaction with the things that are and reduces fretfulness and the spirit of insurrection. In the effort to gain control of a situation that has gone wrong, it is a good plan to return first to a general feeling of good humor and make that the point of departure for the desired goal.

The emotional tone that is favorable to activity promotes also the feeling of interested coöperation, a sense of belonging to the community, while depression tends to breed isolation of mind and the feeling that "nobody likes me." This brings us to the powerful motive of *esprit de corps*. This may be invoked for all kinds of betterments. When all are in a mood to work together to attain an object, the reflex on the character is usually more valuable than the end obtained. An appeal to this spirit reduces tardiness and improves the attendance record. It has a restraining influence when the good name of the school is at stake. The spirit can be enlisted to bring about community reform. It is one of the most powerful agencies in supplying a motive for work which appeals to all alike. And there is hardly any other motive that makes for good order to the same degree as the spirit of coöperation for a common end. And every piece of constructive work or every series of games that the whole school unites "to put across" means self-disciplinary control and a lesson in democracy, not to speak of the results of an academic character that the undertaking affords.

The Right Use of the Mind. The attitudes that are established in school depend much on what the teacher accepts and approves. This is usually applied to moral conduct; we show our approval of right acts and thus give them a

social sanction. But this phase of discipline is so well understood that it hardly needs mention. It is our purpose in this place to consider particularly those tendencies which develop the mental character without intending to imply that they are not related to moral development. The goal of school work is not so important as the training afforded in reaching the goal. The final difference between the man who has profited by his school work and the other kind is that the former has learned how to use his powers and the other has not. All good schools are training grounds in the right use of the mind.

The Attitude of Attention. One would naturally think first of the physical attitude of attention as a necessary condition of mental activity. In its primitive form and when directed to a material object it consists in bodily stillness and a fixed attitude. It is well illustrated in the case of a wild beast or the common house cat lying in wait for its prey. The particular object is singled out and all the world beside is excluded from the gaze. The degree of concentration is greatly increased when the object is seen to move. In man this outward form of attention when directed to a material object is most instinctive and unreflective. There is much more meaning in a moving than a still picture for a child. For him the moving thing lives, the still is dead. The children of a kindergarten were asked to name the things in the room that were alive; they had no doubt but that the smoke and the fire were among the living things.

In the young child the fixed attitude cannot long be maintained before random motor reactions manifest themselves. In the pre-school period when the child is largely under the tuition of his impulses and when he learns rapidly, he is

seldom still except for a few moments but passes rapidly from one thing to another and spends his time mainly in doing and acting.

The Child's Attention. When the child comes to school the teacher must remember, therefore, that its attention is dynamic as in play rather than static as in quiet analysis. This is generally true of the first few years of the child's school life. The power to think as an adult does comes slowly and gradually. To gain a thought is analogous to early attempts to grasp a toy: there are at first random, diffuse, round-about, and apparently useless attempts; thinking goes by jerks and starts and sudden flashes of inner light, and not in the orderly procession of formal steps.

Bodily Positions and Thinking. Among adults the thinking attitude takes various forms. Some say that they always think better on their feet, others find that their best thinking is done after they retire for the night, boys in college dormitories usually seem to prefer the horizontal position with the feet somewhat higher than the head, others think best walking to and fro in a room, and others still, prefer a piece of paper with a pen or pencil in hand. However, individuals may differ, it seems certain that the sitting and the standing position are most generally useful in situations that do not admit of delay or postponement. Hence, the school should cultivate the erect attitude of sitting and standing in connection with the thought processes, whatever individual preferences may be in the prolonged study of problems.

Thinking Under Difficulties. Allowance, however, should be made for those pupils of the emotional type who find it difficult to do themselves justice in the presence of

their classmates. Under their emotional stress they are incapable of clear expression and would prefer to work out their problems alone and present them in writing. Those who do best, on the other hand, when under the stimulus of their classmates are often disappointing when their turn comes to make a written report. Both are, to a certain extent, handicapped and it should be the aim of the school to give them corrective training.

Concentrated and Distributed Attention. These forms of attention are both normal and necessary. The field of consciousness is often conceived of in the image of the field of vision. We may see a number of things at the same time, but some of them more clearly than others. The point in the field to which we direct the attention is clearer than any other point. The things which are farthest away from that point are in the margin of the field of vision and are least clearly seen; those between the point or focus and the margin are seen with different degrees of clearness. The consciousness has a similar character. The point to which we direct the attention is the focus of concentration. The attention may be relatively narrowed and intensified in the conscious field or it may be distributed over a comparatively large portion. This is not because we are able to attend to two or more things at once but rather because the attention is capable of passing very rapidly from one thing to another. It is necessary for efficiency in life to cultivate both powers. With only the first the teacher will be absorbed in the lesson and will be mentally absent from everything else in the room. This is not favorable to good control. The teacher with the alert attention will be able both to follow the lesson and know what

is going on in the remote corners of the room; she will know even in a large class who is not paying attention or who is trying to give merely the appearance of paying attention. That this kind of attention is necessary in social life, business, and all administrative work needs no particular emphasis.

Causes of Mental Inefficiency. The work of the school may be such as to cause mental arrest and weakness instead of a growing control of the essential powers of the mind. We have seen that the two phases of attention just described are necessary to meet the ordinary situations that life presents. Let us imagine now the absence of one or the other of these powers of attention. If there is extreme distribution with little or no concentration, we have the scattered or vacillating attention which is not anchored to any point of support. In its extreme form, the mind is incompetent and powerless to produce definite results of any kind. On the other hand, if concentration is strong with little or no distribution, we have absent-mindedness of possibly various degrees of seriousness. The scholar or the inventor, for instance, is so absorbed with his problem that he forgets his surroundings. The danger here lies only in the direction that might be taken by the focus of attention; it may be concentrated on an improper object. The healthy mind has the power to concentrate on the main duties and demands of life and will not waste its energies on evil thoughts.

How Mental Power Is Weakened. We shall not consider here the mental aberrations that are best illustrated in the hospitals for the insane, although the fundamental principles are just the same, but the milder forms of the

tendencies that weaken mind and character, with special reference to what may happen in school life. There are two recognized ways in which mental powers may be arrested or weakened: First, by concentration or exercise of attention on the improper, the abnormal, the unessential; Second, by a weakening of the power of concentration on account of a divided, unstable, or wavering attention due to uncertainty of purpose or indecision in regard to several possible modes of action. These topics will be taken up in order. The first relates in general to a loss of perspective in regard to the things of school and life. The mind of the school child may be exercised, as we shall see, only in the subordinate mental functions. Or it may linger on inappropriate subject-matter. The efficient life is in harmony with social decency; the mind of the child is weakened by engaging his energies on matters that he would be ashamed to tell about. Nor should he dote on horrors, crimes, and catastrophies. Although attention will go where interest leads, the mind should finally dwell on the normal rather than the abnormal and exceptional, on justice rather than injustice, on the positive rather than the negative forces of life.

Thinking of Self. Any habit of mind depends on repeated use or indulgence of an impulse and on the material or object on which the effort made is employed. Attention has already been called in another chapter to the self-regarding emotions as causing maladjustment between the individual and his environment. It is not necessary to point out that the subjective contemplation of the self is a hindrance to thinking and that it is not a proper object for the continued exercise of the mental powers. It is the business of the school to keep the pupils busy with either mental or

physical activities directed always into wholesome objective channels.

The Practice of Thinking in School. A teacher or a pupil may magnify some non-essential school activity out of all proportion. He may mistake means for ends or emphasize unduly any subject matter of subordinate character. The reason for the existence of any organ, function, or power is that there is use for it. The mind grows in the direction of use. If we read in a foreign language we learn to read in that language; if we speak a foreign language we learn to speak that foreign language. If we simply read without speaking, we do not learn to speak it. We can learn to do both if we practice in both. Children in school will learn to do what they get practice in doing. If they are stimulated to do thinking and are expected to do it, they will practice that function. If the school is so conducted as to give the lion's share of practice to functions that should be subordinated it misses its aim. Thinking is the most useful function for life that the school can exercise. It is also the most wholesome mental exercise; for, directed upon the proper object, it strengthens the mind in its unity and integrity. It is always original and it makes for the development of mind and character.

Substitutes for Thinking. But school work may not reach the level of thinking at all. There is not much doubt that some schools never for a moment get into the thinking field. Other powers that are useful only in subordination are made the end of all activity. And there is a wide-spread misconception of the kind of work a school should do. One often hears, in discussions of excellence of mind, of great memories, exceptional powers of retention for words, for

names, for lines of poetry or prose, or for dates in history, as if these things were the aim of education.

Memory for Words. A strong verbal memory combined with imitative skill in language may have all the appearance of wisdom. The teacher may flatter herself to learn how well the children get their lessons and how correctly they write their examinations. If this is final in school, if the memory of words is made the end of school work, if this is the habit of mind that the pupil acquires, he will to a large extent waste his time. To keep the mind on this level is to arrest and weaken it. Children get into the habit of accepting words as if they had meanings that they understood. And this may happen through all the years of school life and through all the subjects studied.

Memory of Words a Means to Higher Ends. There is a time, it is true, when it is altogether proper to give considerable attention to words and forms of language. In early life children hear much from their elders which they cannot justly comprehend until they have had more experience in life. At this time they hear language that they afterward fill with meaning. "Thoughts are more important than words but words come first," as Erasmus put it. Language is not only a means of expression, but also a means of thinking. Children need words as a beginning step in getting meanings. In a new subject with technical terms and phrases peculiar to it, students need to pay close attention to the words of the book for a working vocabulary. To get the proper effect of the work of classic writers, who have given final form to noble thought, it is a good practice to memorize large passages of the text. In all these instances, however, the exercise is a means to higher ends.

Memory of Facts. Another use to which the mind is put is to remember facts. But if facts are not seen in relation to each other, the result will not be knowledge. Their accumulation in the memory will serve only for reproduction in mechanical sequence. It is like the memory of words on the page or their sound to the ear or their "feel" to the vocal organs. Students who are not accustomed to this kind of work often find it hard to get along in a school in which the chief emphasis is placed on verbal reproduction. They have put their minds to better use. They dread recitations, tests, and examinations which make exhaustive requirements of the memory, because they have learned by experience that it often proves treacherous. This kind of school practice is one of the few causes of educational overstrain.

Memory for Relations. A *memory for relations* is the highest type of memory. It serves in reproducing one's own thought, or the thought of another. If it is not too far in the past, by means of the memory relations one's own thought will readily recur in its original or an improved order; all that is necessary for a cue to begin is some related word or thought. The better the original organization of the thought, the easier will be its recall.

In learning to reproduce the thought of another as in a speech, it is first necessary to go through the production and trace relations that exist between the points considered, from the first to the second and from the second to the third and so on, thus making a chain of relations that will hold together and will be suggested in their order when beginning with the first point. With a very thorough study of the organization any part may be suggested as a beginning, all the links in the chain will then fall in line. This is the way to

study a history lesson or any other logical product. "The more true and natural the thought links are that are invented to bind one idea to another, the more lasting and the surer will be the recall." ¹

Thought links are much more powerful than those of mere association. If one would learn nonsense syllables quickly he must imagine connections of thought between them in order.

"Man does not live to remember, and any system of education which appeals mainly to the memory has so far failed to meet its purpose. Man lives to think, to know, to feel, and to do, and to have constant pleasure in all these. Memory is only a means thereto. It is only the thoughts and knowledge embodied in words, only the beauty inherent in the symbols to be learnt, which we cherish." ²

Steps in Development of Thinking. If this is the predominant attitude of the teacher, it will become the controlling influence over the work of the school. But the memory for thought is so nearly identical with thinking that we ought to consider in more positive terms what the steps in the development of the thinking attitude are.

To begin with, when a small child is asked to say what anything is, thought and language are identical, no distinction being made between the name and the thing itself. If asked, "What is a fork?" the child will answer, "A fork is a fork." It knows also what familiar things are not, that a fork is not a book. Later comes the definition of use, "The fork is to eat with." This is for a long time a child's

¹ Watt: "The Economy and Training of Memory," third impression, New York, 1911, p. 109, Chap. VI, Longmans, Green and Company.

² Watt: *op. cit.*

means of readily defining any object within its experience. It is a good definition, too, as it fully supplies the mental need. It suggests also to the teacher that experience should come before definitions, distinctions, and explanations. As the child grows in experience and the use of language, questions will arise as to the likeness and unlikeness of different objects; classifications will be made and analogies drawn on a somewhat higher plane. Sometimes the constructive fancy will be involved in a pretty conception, as when a child called a butterfly a flying pansy.

It is not possible to say at what age a child begins to manifest certain tendencies of thought except in a very general way. It is certain, however, that in the lower grades the thinking tendencies should find expression in spontaneous language, in connection with exercises in language play and in conversation. Thoughts should not be "extracted" from children. In the lower grades to stimulate expression is to stimulate thinking. There must be perfect freedom and tolerance for all childlike crudities of thought.

The Spirit of Inquiry Is Essential to Thinking. The children of all grades should be encouraged to ask questions. In the lower grades the questions asked are often such that perhaps no one could answer satisfactorily. Here the children seem to have unlimited confidence in what the teacher knows. A little girl came running to her teacher to ask her, "Who was the wisest man?" The teacher answered thoughtfully that it was usually held that Solomon was the wisest man, whereupon the little girl exclaimed gratefully: "I just knew you'd know." In the upper grades the children believe that the teacher knows nearly everything and this checks the spirit of inquiry. In all the grades it is es-

pecially important that the teacher says frankly that he does not know, when such is the case. When the teacher knows everything there is no object in finding out anything to tell to the class.

A supervisor of practice on finding a class he visited rather unresponsive asked one of the pupils in the course of the recitation to ask the teacher a question which the supervisor whispered to him. The teacher somewhat embarrassed had to admit she did not know. Then at once every child was wide awake to find out. They were ready to make a general scramble for the reference books. Here was something worth finding out when no one in the room knew it.

Ordinarily, when the teacher knows it all and everything is settled the whole atmosphere is unfavorable to thinking. The teacher should think out plans to have certain information which is new brought into class by the pupils in the higher grades. There is hardly any subject that does not afford opportunities. And let the teacher dispel the idea that any one knows everything. Rather let it be known that we are all on the very frontier of the known and the unknown in every subject. Of even the commonest things like dogs and cats and grains of wheat and flowers, etc., there is much that nobody knows. Let the teacher try to elicit information from the children on subjects they know about but that she may be ignorant of. It is practically true that every person has made observations that have not come within the experience of any one else.

To establish the thinking attitude much will depend on the *tone and tempo of the teacher's questioning*. If the questions are "shot" at the pupil in quick succession with

little allowance of time for a thoughtful reply, the impression is made that no such reply is expected. If the tone of the questioner is, "Here, you, what do you know about—?" the suggestion of a lack of deference to the pupil as a thinking individual will inhibit the thought processes. To be sure, there is a part of the body of knowledge that every one is expected to know and know on demand. There can be no doubt or uncertainty about the number of quarts in a peck or the rule of verbal agreement which custom has permanently settled. But it is well in other fields to assume that the mystery of the unknown touches our life at every point and invites discovery; that things about us ask:

"What is our origin and our destiny, how are we caused and constituted and what effects do we produce, what do we depend on, what are our relations and our qualities, how do we live, grow, and change, and how do we serve you?"

This should be our attitude to the meaning of things. When we come to the general statements found in the literature we read we should try to verify them. The teacher should dispel the common indifference to statements that challenge belief. The question now is simply "Is the statement true?" that is, "How does it square with our experience?"

The time will come when we should expect the pupil to follow a *chain of thought or reasoning*. In our progress onward in the development of the thinking pupil, we have advanced from the small child's extremely narrow span of thinking consciousness, when things are regarded as isolated and meanings are given in terms of identity, to an ever en-

larging grasp of connected wholes. Thinking the relations that exist between facts acquired unifies and organizes the mental content and, as we have seen before, gives the mind the power of retention in its highest degree. The following facts, for instance, may be seen in isolation: *increased cost of living, men withdrawn from industry, advance in price of products of labor, call for troops, increased price of labor.*

I

They may be seen as a connected whole: call for troops, men

2

3

withdrawn from industry, price of labor, price of the prod-

4

5

ucts of labor, increased cost of living. There might be more links in the chain with the fifth remaining the same or the chain might be indefinitely lengthened. The relation between 1 and 2, 1 and 3, 1 and 4, 1 and 5, are seen with increasing difficulty. Let this typical case suggest the two forms of thinking that may be carried on in the school: First, a chain of cause and effect may be constructed beginning with some fact and adding others in order: 1—n. Second, two more or less remotely related facts may be given, the problem being to supply the missing links: 1—5. The work of the school will always afford material for problems of this kind.

The more purely *constructive type of thinking* requires an assembling of thought material to satisfy the demands of a previously conceived plan or design. This is illustrated in the industrial and the fine arts where wood, stone, color, or other material is used to realize the idea. The most familiar example of this kind of work in school is the constructive use of language in the story, the poem, the essay, the debate,

or the theme. These are formidable names to most school children, and yet the exercises which they represent are carried on in informal ways in all the grades. Essentially, constructive thinking is reorganizing a set of relations for a new purpose. Or it may take the form of combining several sets of relations to form a new order of thought.

Constructive Use of Knowledge. In one form or another, in schools in which the right kind of work is done, constructive thinking is done in nearly all the subjects. It takes place every time the thought gathered from a book is related to the facts of life, every time a general principle discovered by a pupil is applied to new-found instances, and every time one branch of study serves as a means to aid in the mastery of another. Reorganization implies the power of original dissociation before there can be a re-combination. In simpler language, this means that the highest effect of knowledge is the power to do something with it. It should be the aim in all the grades to find use for what is learned. To make constructive use of what is acquired, whether it be in Latin or arithmetic, is the natural intent and final act of study. This does not mean that some time in perhaps the distant future a study will become useful. It means rather that what we gain from it will find use in our present projects and purposes of study and thinking. It relates to theoretical as well as to practical needs.

What the Mind Is For. This is the mind's part in the business of life. As eyes are for seeing and ears for hearing so the mind is for thinking. And all the other functions and powers are contributory to it. It is the main purpose of discipline and management to make the conditions favorable for the exercise of this function. But all real thinking

is original. "You can lead a person to knowledge, but you cannot make him think."

Control of Attention. We have discussed what are the proper objects of thought and what is the proper function of the mind. We turn now to the control of attention when directed upon a proper object of thought. It is a common experience to find pupils who work faithfully on a proper object of thought and yet succeed in obtaining only the most meager results. They want to think but they lack the *power of concentration*. This is the second cause of mental inefficiency, which was said before to be due to a divided, unstable, or wavering attention. This is a weakness of whose cause students will always be ignorant unless by psychological self-analysis they come to discover it or have others discover it for them. To know the cause of the disturbance is the first step in effecting a cure, if a cure is possible.

Attention, as is well known, *follows interest*. We might well counsel a student who really wants to do what he is doing—"Assume an interest if you have it not." One can try to find attractions and uses in a forbidding subject, fall back on one's pride and confidence in his powers that will not be "beaten" by any task undertaken, or think that "if others can master it I can." Children sometimes take a fatalistic attitude that makes an initial interest or disinterest final. They should not get the impression from their parents and teachers that the fates have decided for them what they can or cannot do. This is one of those subjective attitudes that are unfavorable to development. It is a much better sign if children always show an unquestioning eagerness to attack.

It often happens, too, that a subject is not given a fair

trial. Children do not approach it in good humor and do not give it sufficient time and attention to find out whether it is likeable or not. Intellectual light will make almost any subject beautiful. It is also true that *interest follows attention*.

Inner and Outer Factors of Attention. To be able to hold the attention to any subject and shift it at will from one thing to another is the chief sign of mental control. But conditions are possible when no person can exercise attention for a long time. There are always two factors, an inner and an outer. If the outer factor is small, as, for instance, the point of a pin, no one can hold the attention to it for more than a few seconds. If the inner factor is small due to lack of experience and interest, the attention will also not long be held to an object. If the object of attention is such as to give the inner or subjective factor much room to enlarge itself upon it, as in the case of a book and a reader, a picture and an artist, a problem and a mathematician, attention may be held to it for perhaps hours at a time.

Attention and Stillness. The child's normal attention is weak because of its limited experience. And while it tries to fix the thought it can command on a book or other object, the attention is easily disturbed. There are so many things that are more attractive. Every unusual sight or sound distracts. To make a noise seems a delightful diversion at all times. The schoolroom must be quiet, but only so far that no one is disturbed. A deadly stillness so that one can hear a pin drop, the old-fashioned ideal of order of forty years ago, is not favorable to the best kind of work. Still work is unnatural for children in the elementary school.

And it has been found by experiment that the best work is accomplished when there is a business-like noise going on.

Concentration Weakened by Impulse to Be Active.

And then distractions come because of the impulse to be active when the matter in hand gives no opportunity for it. Children ask to leave the room or make other excuses simply to move about and relieve the tedium of sitting still. And when asked to run an errand that takes them into the open air for a little while, they are always overjoyed with this sign of the teacher's special favor.

Concentration Weakened by Anticipations and Memories. Distractions are also due to anticipations of some future joy or to the memory of past experiences more pleasant to contemplate than the problem in hand. It is such emotional experiences as these that work havoc with present efficiency. This is particularly true of the emotional type of child. The continuing emotional tone will work its way subconsciously into the fabric of the present thought and will weaken the attention on the present problem. The result may be a general weakening of the attention or it may be a straying away and a returning of the attention to the present thought. Every child is familiar with this characteristic of the weakened attention to the matter in hand. Every one finds it hard after a long vacation to settle down to the study of a book; the mind keeps wandering back to past delights. And in the spring near the end of the year when children anticipate freedom from school and there are exercises and other signs of the school year's close, children again find it hard to keep at their studies until the very end.

Chief Sign of Mental Strength. When children and teachers give way to these emotional influences they under-

mine the power of attention. It is good that the matter is no worse, that the disturbing emotions are cheerful. If *grief over the past* or *fear of the future* weaken attention to the present need, the condition is a more serious one. An emotion or feeling appropriate to the occasion tends to unify thought; rivalry between several emotions tends to scatter it. To be able to hold the attention to the present and shut out the past and the future at will is the chief sign of mental strength. This should be one of the aims of discipline. Children should practice shutting out of the mind the things of the past as well as the things of the future and learn to employ their full powers on present realities. In case of fears they should hold to the maxim of Sir Thomas More:

If evils come not then our fears are vain,
And if they do fear but augments the pain.

Mistakes in Double-Track Thinking. Emotional disturbances are often the unrecognized cause of a waste of much energy by both pupil and teacher. Teachers frequently give drill exercises in such subjects as numbers and English, and require a certain amount of written work to be handed in. They take the papers home and their nightly task is to correct many of the same mistakes over and over again. The children do not seem to profit by the drill. An explanation of the difficulty seems to be this: the desired effect of the drill becomes the cause of the errors made. It is intended to make the number combinations and the proper English forms an automatic possession of the child. The more automatic they become, the more they will be like any other exercise of this kind, such, for instance, as piano playing. The player can in time talk while playing. Now,

if one is not interested in the playing but rather in the talking the wrong keys will occasionally be struck. In the same way in the other exercises. Numbers and English forms may be known automatically, but then they will be just the place where mistakes will be made if while working the exercises the child's other interests and emotions cause interference in the orderly associations that have been so painfully acquired.

Exercise to Increase Power of Concentration. Instead of repeating the same errors day after day, the children should learn why they make the same mistakes again and again, and the teacher should give them drills in concentrating their attention on every present exercise. Children must think about what they are doing. They do not have to scatter their energies on two trains of mental operations. The teacher must insist that they keep their minds strictly on what they are doing. That is the proper way to use the mind. It is the kind of exercise that increases the power of concentration.

The Divided Attention. In all these cases it is temporary and changing interests that interfere with the demands of the hour. The outside attractions that take the mind from the school work are not the same from day to day. A divided attention on permanent rival interests has more serious consequences, and it brings about marked symptoms of inefficiency. In the more extreme forms it leads to pathological states and mental breakdown. But this rarely happens among school children.

Indecision, however, a sort of attention rivalry, is one of the common causes of inefficiency in every day life. One may be undecided as to what to think, what to say, or what

to do. As a result usually of bad training children hesitate about everything and are sure of nothing. They are inefficient in thinking because they have been allowed to acquire the habit of reading in the teacher's expressive countenance whether to say yes or no. They look for the familiar nod of approval rather than think much on the question to be answered. In certain schools a rising inflection of doubt in answering all questions has become a settled mannerism, which means "I am not at all sure of this and don't pretend to know, so I am really asking you." To assent to what one hears is an easy escape from the trouble to think.

Importance of Being Certain. To prevent this tendency children should be trained to initiate thought, lessons must not be too long, and the tempo of the school work must not be too fast. They should be trained in time to arrive at such a degree of certainty in their conclusions that they would be willing to defend them against the contention of any one even including the teacher. It is not for them to worry over the questions of an examination for fear that they may not say in answer what the teacher might want. It is rather their part of the work to determine what the questions ought to mean and then give the answer that is certainly correct, whoever in the wide world shall happen to read it. Children must learn in school that whatever is right, is right in spite of any person. It is an important day in his training when a child becomes sure of something.

Indecision as Reflected in School Work. Indecision and a wavering attention is indicated on the written page not alone in the confusion of ideas found upon it but even in the variant forms of penmanship, ink blots and blurs, and

a writing that straggles over the margins at the side, top, and bottom. This kind of work is characteristic of the emotional temperament and is often attended by great excitement. It is a condition that may be observed among students of high school age and above that during the period of examinations. There are those who would say that the system of examinations is at fault; it is rather the fault of habitual indecision. A teacher reports that this condition was relieved after a long and careful study of such a case by explaining to the student the nature of the difficulty and then simply adding "Now, stop it." This was done at the very beginning of the examination in a low tone of voice so that no one else heard it. The result was altogether favorable. Later after every examination, the student left the room in a calm frame of mind and her papers were greatly improved. In another instance where the confusion of mind ended in an outburst of weeping, the same plan was pursued with the result that the student resumed work on the examination and succeeded in passing it.

Home Training in Indecision. Habitual indecision between courses of action presents serious possibilities. It is also a result of neglected training. When children are young they manifest healthy impulses to action in their problems of conduct. In time these are weakened by the parental tendency to forbid all their proposals, projects, or plans. In their attempts to carry out a course of action to its conclusion, the children are met with an indiscriminate "You mustn't" or "You can't." This begets an attitude of repression to their impulses and increases timidity and self-consciousness. Thus, not gaining practice in meeting the situations presented in alternative courses of conduct, they

become indifferent to the issues of life or they become powerless to decide rationally what is best for them to do and instead of thinking out their own problems take refuge in some one's advice. If the matter is too trivial for that, or if it is a secret which out of self-respect must not be divulged, they will never be certain of the course to take, or if they do act they are usually self-conscious and awkward. Thus "function is smothered in surmise . . ." and "enterprises of great pitch and moment . . . lose the name of action."

Facing and Settling Problems. Suppose two possible modes of action present themselves. There are several ways of not meeting the problem. One may suppress both and remain inactive. One may act on one and suppress the other. One may act on both alternately, that is, suppress now one and now the other. In none of these cases do we get clear of one of the alternatives, they only sink into the subconsciousness. In no one of these cases do we arrive at a clear and final decision, the buried impulses are still alive and keep the purpose unsettled and the power of execution blunted. Finally, another and the proper way to meet the situation is to meet it frankly and fully, facing it with all the vigor of our best powers of thought and deciding what we should do, and then doing it. This is the way to be true to one's self and not "be false to any man." Thus we choose one course of action and root out the tendencies to do the other. This is a way to clear up "misunderstandings," to accept a belief, and to decide on a proper course of action. To meet and solve the problems of conduct is one of the normal responsibilities of life. If we shirk or refuse to accept them, penalties are exacted of different degrees of

severity from the normal forms of indecision and disturbances of attention to mad-house insanity.

The *hygiene and discipline of the mind* is one of the most important phases of school management. We have long known the kind of discipline in the home and the school that had for its chief injunction the warning "Keep still." If this were all of discipline the problem would be easy to solve by force and would not require any thought or discrimination on the part of the teacher. But we have not alone moral but also mental characters to deal with during the most impressionable years of life. We should know what the conditions of mental activity really are, what attitudes to establish, what to make the object of attention, what to subordinate, what to avoid, and how to prevent hindrances to concentration and to decision of character.

CHAPTER XVII

THE INDIVIDUAL AND THE GROUP

SOCIETY does not teach behavior by formal instruction, but ignorance of its written and unwritten laws excuses no one from its penalties. Manners, customs, statutes — the rules of the group — are instituted to control the emotions of the individual. In mental discipline control must come from within, a person must take himself in hand; thinking is original. In social discipline, the individual profits by association with others; he learns to limit his desires for the good of all and to revise his ideas by correction with those of his equals, and he gains ultimately the civic virtue of obedience to the will of the people and the voice of majorities.

The school is so organized that it can give this training by practice. In fact, it cannot help giving some kind of training in the social order. It is in itself a society in which, as in society at large, the same laws control and both teacher and pupil are under their dominion.

Limitations of Freedom. The group limits the freedom of the individual. The larger this group the greater the limitation. The small child longs for the freedom of the older children and these for the freedom of their elders. In time all come to learn that there is no person in the wide world who can do as he pleases. It is a familiar thought

that the universe of time and space imposes its limitations on human endeavor. The best we can do is to make a sort of compromise. We adjust ourselves to times and seasons and make our lives beat in the rhythms of the universe. We work by day and rest by night, we sow in spring to reap in summer. Nature exacts the severest penalties for being behind time. To get the habit of going to sleep at sundown and rising at dawn is the beginning of the moral life in the young child as well as a benefit to the health. To eat and sleep at regular intervals is for all persons to draw on the rhythmic forces of nature for health and enjoyment. Keeping regular hours has a distinct relation to character growth. The school as well as the home throws around the child certain limitations of conduct, the full significance of which he is not able to comprehend. In these things the child needs the direction of the parent and the teacher.

The Teacher in Relation to the School. The school is a group of which the teacher also is a part. The only important difference between him and the other members of the group is due to the fact that by virtue of his experience he knows lines of conduct whose value he can more fully comprehend than they. In these matters he commands their obedience on the ground of their confidence in his wisdom.

The School an Organic Unit. The school is also to be looked upon as a little community united for a common useful purpose. The teacher is the head or leader through whom all the parts of the organization are coördinated and through whom all the activities are systematized. Each pupil should feel that he has a place in the system, a part to perform that is in a way indispensable. The different activities of the school should reveal such an evident purpose-

fulness that those who engage in them should see the relation of what they do to the good of the whole school. This is a higher principle of action than mere blind obedience and thus has educational value in itself. The teacher himself is obedient to this principle. He too is loyal to what is best for all, and he does not expect and will not countenance a personal loyalty to himself when it does not mean faithfulness to the highest purpose for which the school exists. He does not play the rôle of the benevolent despot. The purpose of the school should, as far as possible, be uppermost in the minds of all, teacher and pupils alike, and he who is sincerely loyal to that purpose exercises the highest type of allegiance.

Danger in the Strong Personality. The strong personality may not be an unmixed blessing in the schoolroom. An unobtrusive director is better for the children than a domineering leader. Children should not get the idea that unbecoming behavior annoys the teacher, but that it disturbs the work of the school. The work that is done should not seem to please the teacher: "Let us" is a better form of assignment than "I want you to." And the teacher will not be opinionated. He will not dogmatize too much. His mind will be open for further evidence. He will not begin instruction with conclusions and results, for this will paralyze activity of the right kind among the pupils. When everything is done, when opinions are fixed, when the truths are all defined to begin with, what can students do but commit to memory generalized statements and at best try to corroborate what the books and the teacher are sure of?

Teacher's Duty to the Group. As a part of the school community, it is the teacher's duty to the group to be punc-

tual in all his engagements. He must not only be on time but he must be ready for work on time. This will require preparation of material in advance and having the plans for work ready when needed. The teacher will begin to plan before the first day of school. He will visit the neighborhood and learn of the character of the people. An interview might be had with the last teacher of the school, or the county superintendent, or the principal if the school is in a city district. If it is learned that for some reason no material will be available at the beginning of the session, the teacher will have time to plan to get along without this help. Under no circumstances should the children be dismissed the first day without anything done nor should they be excused before the closing time. The teacher and the children should begin the work on schedule time. Any other practice may invite dawdling throughout the year. The first day is the most exacting of all upon the teacher's skill in management. First impressions are important, and the teacher should be careful to initiate only such attitudes to the work of the school as are desired to be permanent throughout the year.

Training for Group Activity. Degrees of civilization and enlightenment may be measured by the number of people that can live together for the common good. The young infant comes into the world without the power of adaptation and subjects the whole family group to its needs. As it grows older it adjusts itself more and more to the wishes of the group until its rights are balanced by its duties as in the case of any other member of the family. On going to school to join a larger group, the child faces a critical period of life. And the school is only a step to the life in the larger community in which he lives. Here the child is sup-

posed to learn to become also a member of the larger communities, as the city, the state, and the nation. Savage tribes are capable of only a limited extension of their mental and social horizon. The "lower savages" are said to have the power of combining in hordes of only about forty, the next rank combine to the number of one hundred and fifty, the next three hundred and sixty; the "lower barbarians" can live in towns of a thousand inhabitants and the "lower cultured" in cities of six million inhabitants. Only races capable of union have succeeded in perpetuating themselves.¹ To become truly citizens of the world requires a culture and training of which not all are capable.

From Family to School. To make the adjustment from the family to the larger group of the school is attended with considerable difficulty. The laws of the smaller group are different from those of the larger. The children of the same family are likely to be communistic at home with respect to familiar things to eat and wear. They are individualistic in regard to novelties. They are likely to quarrel over the possession of a new toy. When the novelty has worn off, the toy falls to the communistic level. In school to use pencils, towels, etc., in common is forbidden as unhygienic; its consequences may be very serious. In the home to pick up money of the more familiar denominations that happens to lie around, and use it, is perhaps a pardonable fault; in school, the same act is criminal.

Group Efficiency Requires System. In the smaller group an order of procedure may not be necessary; in the larger group it saves time and confusion. In school there

¹ Sutherland: "Origin and Growth of the Moral Instinct, Vol. I, p. 366, Longmans, Green and Company.

must be a time and place for everything. The child must learn the difference between *mine* and *thine* with respect to space as well as to property. There must be a place for the child's things, a locker or clothes hook, and he must keep it as a possession and no one must appropriate it. There must be a time to do certain things and a time not to do them. At home a child can be more free from restrictions. Those children who come from well regulated families make the transition to the larger group with less difficulty than others. If the children at home are required to be on time at their meals and on retiring at night they are likely to be prompt at school.

In school there must be an orderly procedure to expedite work, to exhibit an example of the way to do things, and to inculcate orderly habits. With the larger group this becomes particularly necessary in order to curb individual haste and impatience. This kind of training is also necessary for its effect upon individual efficiency. When one has a number of things to do he is wise to classify them and do them in a certain order. We economize time by remembering our different errands and we plan to do them so as not to do more walking than necessary. We arrange the places in order and do the errands in orderly succession. We use pigeon-holes and desks with drawers so that we can distribute the things we need in order, so that we may become accustomed to finding them in the same place each time and habituate our movements, thus saving time and energy which we need for other things. On the same principle, in school "We have a place for everything and every thing in its place," not simply because some one told us or because we read it in a book, but because we know we can accom-

plish more this way and the children need it as an exhibition of order in community life.

In school, children learn to act together in larger and larger groups as the years go by. From the very first they learn to do certain things at the same time. They assemble promptly and without individual exception at the time of opening the session. They are dismissed at the same time. In order to avoid confusion with large numbers of children an order of procedure is initiated in which each child has to wait his turn. This the teacher plans for in advance and with such care and forethought that it may not have to be changed after it once is instituted. An order of procedure succeeds only if it affects all the children alike and if it is repeated without exception until it becomes habitual. To contribute its part to community orderliness is an important part of the child's training.

Distinguishing Constants and Variables. It is an economy to the individual and the group to anticipate in this way what it is known will recur again and again in order to have greater freedom to attend to those things which require our best thought. It is a useful principle to divide the activities that confront us into those that are repeated and those that are not — into constants and variables. The former we habituate ourselves to so that we can do them without thinking and apply ourselves to the things of life whose character we can never predict. This is a lesson for the school to exemplify. The first few days or weeks of school life before the routine activities have become established are the most trying to teacher and pupils. They pass but slowly. Attention at first must be scattered over numerous details that afterward become automatic and subside

from the consciousness. Then the days pass more rapidly and the mind is more free to concentrate on matters that cannot be anticipated or prepared for.

The Appeal to Reason. Training for group activity should be on a rational basis. As far as possible children should understand the reasons that underlie orderly conduct in a group. The future citizens should get into the habit of acting on principle, in obedience to reason and law, and not on impulses of personal likes and dislikes. Every activity of the school should have a reasonable motive which the child can understand. In group discipline the principles of conduct in a community gain control over the children of the school and the proper habits are acquired for a decent civil life.

The Individual and the Group in Class Work. The practice of teaching children together in classes came relatively late in the history of instruction. As late as the beginning of the eighteenth century children were taught individually. Although they were instructed in the same room and by the same teacher, they were called up one by one to the teacher's desk to recite their lessons. The advantages of having children work together in the same class are of various kinds. More ground can be covered by means of the class organization, and it is a financial economy to accommodate many pupils at the same time so as to reduce the number of teachers that have to be engaged and remunerated. Individual "coaching" is superior when preparation is hurried and the matter is to be retained only until examinations are over. Good class work should "season" knowledge and make it more usable.

There is, of course, an advantage of a social character in

the method of class instruction. It brings the children in close mental relation to each other; they are rivals or helpers to the teacher or to each other, thus contributing their part to the common knowledge of the whole group. The spirit of emulation is a means to spur individuals on to greater effort. It is useful in competitive games on subjects requiring much drill. The class organization also affords opportunity for group divisions who select portions of work to do independently of each other, which they report upon to the whole class.

Individual vs. Class Teaching. In class work there are two complementary factors. If the effort of the teacher is directed to the whole class as such it is superficial and ineffectual; if it is directed to individuals in turn it becomes exclusive and narrow. The proper kind of class work reaches the individual through the class and the class through the individuals. There is no way of reaching the whole class without reaching the individual members. The best teaching never loses sight of the fact that instruction and training never reach the mark unless they come home to each person. In the matter of attention, each individual must exercise it whether it be to a demonstration by the teacher or by one of the pupils.

Individual and Social Elements in the Formal Recitation. Knowledge is founded on experience, and experience is individual. As illustrated in the process of perception, the new object of sense must be interpreted with something remembered. But the remembered experience is an individual matter. In applying this principle in gaining knowledge, the individual experience must therefore be the key to the understanding of the new. Hence each student must have

perfect freedom to use his experience in the recitation, for it is his only means of understanding and appreciation. This is the individual side of class work. Arousing memories of experiences that pertain to the matter in hand is also the first of the steps of the formal recitation. Group activity comes next into play. The members of the class A, B, C, etc., in bringing their different experiences to bear on the subject of study will necessarily bring out differences and resemblances which will enrich the total concept in the minds of all. This is made possible by the fact that A, B, C, etc., work together. They may now, as a next step, together frame and criticize a generalized statement on what they have together learned of the subject of study. The final form of statement is such as can be verbally remembered. It is also understood. It may now be applied to other instances. In this last step each can again work by himself.¹

If each of the students contributes his part to the whole procedure and gives his full attention to the contributions of the others, the knowledge gained is as complete as it practically can be; if this is not the case there is no magic power in the social situation presented by the class that can bring it about. In short, learning in a class can come about only through the interested coöperation of all the individuals of the class.

Value of Class Criticism. Criticism, or the judgment of excellence, on the part of the pupils can function best in the class organization. The reading or speaking that children do should be directed to the class, not to the teacher. It might well be made a general rule that a pupil always

¹ Compare the Herbartian steps of the recitation.

directs his attention to the class and never to the teacher. The teacher is not a good audience, for he knows already what should be said and hence there is no proper motive to tell him. The object in reciting to a teacher is usually assumed to be for a test of correctness of form. While the main concern of the teacher is whether the pupil is right and uses the proper forms of expression, the pupil's attention must be directed to giving the substance of thought. In the class exercise the form side is properly subordinated to the content. That is, it is better for the child to get the habit of thinking what he is going to say than to be thinking how he ought to say it. Directing his remarks to the class favors the former attitude.

Establishing Class Standards. Even as critics of form the classmates are more effective than the teacher. The teacher knows; he ought to know, of course. The pupil will not measure himself by the attainments of the teacher. But it is a challenge to his pride to lay himself open to correction by a classmate who should not know more about the matter than himself. The pupil will forget the teacher's criticism but will likely remember distinctly that a classmate was able to correct him and what he was corrected for. Comparison of themselves with others of the class is the most concrete way children have of measuring their individual progress. The teacher should manage to have pupils set high standards of excellence in class work. The intellectual leaders should go first. When any new form of work is undertaken, the more capable students should lead the way. This establishes the class expectation of a high standard of work. It will not do to let the weaker ones set the pace. These can follow, and they will more readily rise

to the standard set by a classmate than they would to one set by the teacher.

Coöperative Class Work. The class organization also gives opportunities for joint work of other kinds. A reading lesson is often much improved when a dramatic rendering is improvised. The class may engage in other common projects, such as a program of entertainment for other classes, exhibitions of skill in the manual arts or in gymnastic exercises. Now the class spirit is drawn on to motivate endeavor. This form of exercise has its weak side in that it does not draw on the capability of the individual members of the class in the same degree. There will always be favorite parts in a dramatic representation which all want to take. And repetitions with change of parts cannot well be carried on with a constant degree of interest.

Group Appreciations. The group organization has special advantages in the field of appreciation. Sharing the good in pictures, music, and the drama multiplies enjoyment and gives opportunity for discriminative discussions of excellence. The interest and enthusiasm of a few may affect the whole group. In this way the more stolid temperaments may be reached that would otherwise remain unresponsive.

Weakening Initiative and Power of Attack. The class situation is sometimes looked upon as a means of creating social opportunities of mutual assistance. It is held that this begets an attitude of helpfulness which is indispensable to a well-ordered community life. There are, however, two sides to the situation, that of the helper and that of those who are helped. During the class period helping others gives the public presumption of superiority to those who engage in it and stimulates their energies. On the other hand,

while it may be a wholesome hint to those who have neglected to do their work during the study period, its value is limited for those who always need assistance. It offers a means of escape from individual initiative and diminishes the power of attack. It should rather be understood that the lessons are to be individually prepared before the time of the class period and that the class period proper is the occasion when individual preparations are subjected by all to review and criticism. The lesson of mutual helpfulness should not be the aim but rather the by-product of this test of the results of preparation.

Group Preparation. Study in preparation for an assignment, however, need not always be carried on individually and alone. Drill exercises may be helpfully practiced together. Drill in numbers or language forms or in any other field in which facts are final and unchanging can be conducted by the students themselves. Lessons in appreciation of classic literature often give increased enjoyment when students read to each other.

Intellectual and Social Value of Intensive Class Work. When pupils answer questions, recite, or report upon work, an opportunity is offered in the class period to cultivate the power to concentrate and the power and patience to listen to what others have to say, that is unrivaled by any other exercise. It has both intellectual and social value; it is necessary for the power of continuous thought and it is a social courtesy. While the class work continues, the pupil must attend to what is going on. When inattention is revealed by the blank, far-away look, which cannot deceive the teacher, or in other and more overt ways, the intermittent question should bring back the wandering attention. There is a time

for rest and recreation; there must also be a time for strenuous work as well as play. The state compels the physical presence of the children in the school at great expense to the citizens; if their mental presence is not also assured, there is loss all around. Under good discipline the school manages to have something to do that is worth while and to have it done in a whole-hearted way.

Loss of Individual in the Group. When classes become too large many of the advantages of this form of school work are lost. Under this condition the group phase outweighs the individual phase of the work. Writers on the subject have usually given thirty as the maximum size of the class. When classes are much larger, the individual elements composing the group are to a certain extent lost and instruction becomes rigid and mechanical.

Group Consistency. Even though a class is not too large, the work done will not reach all the members if the group lacks consistency. The principle that unifies a group in school is equality of its members in the grade of advancement. Even in large cities where the numbers are large enough to make the grading close, the classes which confront the teacher are often lacking in uniform ability to profit by the work that should be done. For example, Dr. Bonser found that 90 per cent of 4A pupils tested in "Reasoning Ability" were superior to the poorest of the 5A pupils, and that 79 per cent of them were better than the poorest of the 6A pupils. The Courtis tests in arithmetic have shown that it is possible to find in any fourth grade, pupils whose ability is equal to that of the average pupil of the seventh grade or to that of more than a fourth of the eighth grade pupils, and to find in the eighth grade, pupils

whose ability is below the average ability in the fifth grade or that of a third of the pupils in the fourth grade.

Promotion and Grading. Teaching children in groups misses its aim if they are not graded according to degree of advancement. When the grading is faulty, the work will go too rapidly and without sufficient detail for some, while for others it will be too slow and seem trivial. In one case, it has well been said, there will be "effort without success," in the other "success without effort." This is demoralizing for all. Inequality in a class cannot be avoided, but the methods of promotion may be so bad that a class may become disintegrated.

Where the Trouble Begins. The children of the first grade are an unselected group, as they enter on the sole basis of age. Besides, there are usually a great number of them under the same teacher. A first grade of sixty or more is not uncommon in the cities. Under such conditions, the end of the year will probably show a large number of unequal groups.

Appointed Times for Promotion. Under the system of *annual promotions* a child cannot go ahead of the class he is in until the end of the year and then he must skip a whole year. And a child who fails to pass at the end of the year must repeat the whole year. In most cities a grade is divided into two sections, half a year apart, and there are *semi-annual promotions*. In the larger cities where the grades are large enough to be divided into four sections and can be together in the same building, there may be *quarterly promotions*, so that there cannot be a loss to a misplaced pupil of more than a quarter of a year.

Keeping the Group Consistent. Inequality in a group

may be conceived of as due to difference in (1) rate of progress in the same course of study, (2) amount of work done, (3) power to do work, and (4) ability to do the work of the several branches of study.

(1) To correct inequalities there are opportunities for frequent promotions, at the end of a half year, a quarter of a year, or promotions may be made at any time. According to the *Cambridge Plan*¹ there are two parallel courses, a basal or eight-year course and the other a six-year course. For each year except the last of these courses there are three sections, so that failure in any section will mean the loss of only a third of a year. On the other hand promotion from the slower eight-year course to the six-year course, or the reverse, may be made at five places in the course. According to the *Pueblo Plan* the individual need is the controlling principle. Each pupil goes as fast as he can, completing each piece of work before he takes up another. In large schools groups are formed and the pupils are moved from one group to another on the principle of rate of progress.

(2) On the basis of the amount of work done, three courses are mapped out for each of the first six grades: one, a course of minimum essentials; another, a course for the average group with something added to the preceding; a third course with some additions to the preceding for the superior group. Promotion by subjects comes after the sixth grade.

(3) Under the *Batavia Plan* a special effort is made to develop power to do the work required, to help slow pupils to keep even in the ranks. In classes of fifty or less half

¹ Cubberley: "Public School Administration," The Macmillan Company, New York, 1916, pp. 300-310.

the teacher's time is devoted to directing study. When classes are larger, a second teacher assists the regular teacher who conducts the recitations.

(4) In the higher grades usually, the pupils may be promoted to higher classes in those subjects in which they excel the members of their own group.

Group Organizations. Usually teachers are free to conduct their classes according to their own ideas of management. Whatever the methods of promotion may be, or however coherent the parts of the class may be, teachers may organize a class for the various purposes of instruction. When the classes are large they may be divided into two groups, alternating oral and written or construction work. There are those who recommend that all classes be divided into three groups and that different amounts of work be assigned for the average, the slow, and the superior. The psychological order of instruction as indicated in the following chapter would make a division of a class or group into several parts a convenience.

But the group plan of class organization often is followed more unreservedly. In such a case the teachers make the work informal, use movable chairs, and provide a table for each of the groups of six or eight. They stimulate individual and group initiative, encourage competition between the groups, and emphasize coöperation. They allow a wide latitude of freedom to the whole class or any group to form plans for work or entertainment or to engage in a group or school enterprise.

In this chapter we have considered that part of discipline which relates particularly to group organization and a kind of training for which the school has special advantages.

Here the children learn to act together as a larger group for a common purpose, they learn to think together, and to react to group opinion. Their play, their work, their language, their thought, are all better because of their life in the group. This training is essentially such as should lead by the time the child passes through the sixth grade to a fair appreciation of the obligations of community life and the spirit of citizenship.

CHAPTER XVIII

THE WORK OF THE SCHOOL DAY

ALL the problems of teaching come to a focus in the actual work of the school day. Under simplest conditions, the number of children who appear for the work are all of the same grade of advancement. It is to be supposed that they are able to do about the same work in all the branches. When they are of unequal attainments the problem is at once complicated. They must now be classified or graded. In every school where this becomes necessary there is usually a record of the classification of the preceding year. When as many as eight grades must be provided for, as may happen in a one-teacher rural school, the problem of management presents itself in the most perplexing form. There may be as many as ten subjects to be provided for in each of eight grades. If there were a recitation in each subject for each grade there would be eighty recitations in a school day. If the school day is one of three hundred and sixty minutes there would be four and one-half minutes for a recitation without making allowance for recesses. But assuming that there are forty-eight pupils in the school, or an average of six per grade, there would be a recitation time of three-quarters of a minute per pupil per subject, and in ten subjects there would be an average of seven and a half minutes a day of recitation time.

Principles of Program Making. To avoid an impossible situation such as is conceived above, the program must

be organized in view of the nature and importance of the subjects taught. Any daily program is therefore made by

- 1 taking the number of subjects to be taught
- 2 in a day of 360 minutes (let us say) less the time taken out for recesses and general exercises
- 3 dividing 2 by 1
- 4 distributing the time on the basis of the importance of the subjects for each grade, noting at the same time those that
 - (a) are to be omitted for certain grades
 - (b) require no preparation
 - (c) can be taught to combined groups or to the school as a whole
 - (d) can be alternated
 - (e) can be combined

Time Distribution. When we consider the amount of time that should be devoted to each subject we are greatly influenced by common practice in the matter. The following gives the distribution of time in minutes per week by subjects and grades in fifty cities:

CHART XX

TIME DISTRIBUTION BY SUBJECTS AND BY GRADES IN FIFTY CITIES¹

Minutes per week devoted to—	Grade							
	I	II	III	IV	V	VI	VII	VIII
Opening Exercises.....	59	59	59	54	49	48	48	48
Reading	412	364	291	236	195	181	151	150
Language	116	122	145	164	179	182	207	220
Spelling	83	102	113	103	94	89	80	79
Penmanship	77	92	80	82	77	73	60	57
Arithmetic	92	148	203	230	223	226	217	220
Geography	25	13	77	128	158	166	151	118

¹ See foot-note, next page.

TIME DISTRIBUTION BY SUBJECTS AND BY GRADES IN
FIFTY CITIES ¹

Minutes per week devoted to—	Grade							
	I	II	III	IV	V	VI	VII	VIII
History	42	48	54	88	103	110	141	181
Science	57	63	62	57	53	62	70	88
Drawing	151	83	87	82	77	77	77	76
Music	70	130	73	74	70	70	70	68
Manual training	65	73	62	70	77	88	111	114
Physical training	71	63	62	62	59	62	59	60

A Rural School Program. The problem of adjusting a daily program of a large number of subjects to the maximum number of elementary grades is a difficult one. Standard programs consist of two parts: one, a program of recitations; the other, a program of study periods for each class. A continuous program for eight successive grades or divisions is not attempted. There are never more than five divisions. Some states authorize programs of only four divisions. When a program of five divisions is used, it is carried out by the method of alternations. In the authorized program for the elementary schools of Illinois, for instance, there are two parts: one mapping out the work to be done in *Even Numbered Year's Work* (1918, 1920, etc.) and one for the *Odd Numbered Year's Work* (1919, 1921, etc.). In the following chart the recitation section of these two programs is given in parallel columns for convenient reference in explaining the methods of alternation.

¹ Compiled from Table II, study by H. W. Holmes and others, in "Fourteenth Yearbook of the National Society for the Study of Education," Part II, page 26 (1915); from total annual allotment in hours, divided by average number of weeks of school year (38.75), and reduced to minutes.

CHART XXI

A ONE-TEACHER RURAL SCHOOL RECITATION PROGRAM

Begin Time	Year	Even No.	Years	Time	Year	Odd No.	Years
I	II	III	IV	V	VI	VII	
9:00	10	All	Op. Exercises	10	All	Op. Exercises	
	10	1	Primary Work	10	1	Primary Work	
	10	2	Number	10	2	Number	
	15	7	Arithmetic	15	8	Arithmetic	
	10	3	Arithmetic	10	3	Arithmetic	
	10	4	Arithmetic	10	4	Arithmetic	
	10	5	Arithmetic	10	6	Arithmetic	
	15	7	Reading	15	7	Grammar	
10:00	15	All	Recess	15	All		
	15	1	Primary Work	10	1	Primary Work	
	10	2	Spelling	10	2	Spelling	
	10	5	Reading	10	6	Reading	
	20	8	Grammar	15	8	Reading	
	10	3	Spelling	10	4	Spelling	
	10	5	Spelling	10	6	Spelling	
				10	8	Spelling	
12:00	60	All	Noon	60	All		
1:00	10	All	Gen. Exercises	10	All	Gen. Exercises	
	10	7	Spelling	10	1	Primary Work	
	10	1	Primary Work	10	2	Reading	
	10	2	Reading	15	All	Writing & Draw.	
	15	All	Writing & Draw.	15	8	Geography	
	15	7	Geography	10	8	Reading	
	10	3	Reading	10	6	History	
	10	5	Geography	10	4	Geography	
2:30	15	All	Recess	15	All		
	15	1-2	Lang. & N. S.	15	8	History	
	15	7	History	15	1-2	Lang. & N. S.	
	15	5	Lang. & N. S.	10	6	Lang. & N. S.	
	15	3	Lang. & N. S.	10	4	Lang. & N. S.	
	15	7	Physiol.-Civics	10	8	Physiol.-Civics	
				15	6	Geography	

¹ Tabulated from published programs in "Course of Study for Common Schools of Illinois," 1918, Tylorsville, Ill., pp. 16-17.

In this program the General Exercises are devoted to Music or Morals and Manners or Agriculture; and the 5th and 6th Sewing, and 7th and 8th Cooking take the period after the afternoon recess the first and the third Friday of each month.

Explanation of Chart. The program of study periods for each class is not given here. Important though it be for the teacher to have the whole study program carefully mapped out, it is not necessary to publish it here for an explanation of the essential features of the whole plan. The recitation program is the hinge on which everything turns. The study program is mapped out on the basis of the time not taken by the recitations. Given the time when each class recites, the rest of the time available is taken up in preparation. The Illinois study program, however, has one particularly noteworthy feature not indicated here; it follows the principle that preparation of the new assignment be made immediately after the recitation. This rule is carried out in the 5th, 6th, 7th, and 8th years and to a limited extent in the 3rd and the 4th.

In column I is given the time of beginning each exercise. As there is some difference of detail in the two columns of recitations only the more important points in the time schedule are given. Columns II and V will make the clock time of each exercise clear enough, as well as give the amount of time devoted to each recitation. In columns III and VI the years, or grades, reciting and in columns IV and VII the subjects of recitation, are given for the even and the odd numbered years respectively.

Method of Alternation. It will be seen from an inspec-

tion of columns III and VI which years, or grades, are heard in recitation and which are omitted. In column III it appears that 1, 3, 5, 7 year (grade) pupils recite in all the subjects, 2 in reading, spelling, and number, 4 in arithmetic, and 8 in grammar. In the Odd Numbered Year's Work, classes are organized for 2, 4, 6, 8, in every subject, 1 in reading, spelling, and number, 3 in arithmetic, 7 in grammar.

The Program for 1919. Taking the program for 1919, an odd numbered year, as we go down the list from the top of column VI we find alternations as follows:

7th year pupils in arithmetic				take the work with 8th year pupils			
5th	"	"	"	"	"	"	6th
5th	"	"	reading	"	"	"	6th
3rd	"	"	spelling	"	"	"	4th
5th	"	"	"	"	"	"	6th
7th	"	"	"	"	"	"	8th
7th	"	"	geography	"	"	"	8th
3rd	"	"	reading	"	"	"	4th
3rd	"	"	begin geography	"	"	"	4th
7th	"	"	in history	"	"	"	8th
5th	"	"	lang. & N. S.	"	"	"	6th
3rd	"	"	"	"	"	"	4th
7th	"	"	physiol-civics	"	"	"	8th
5th	"	"	geography	"	"	"	6th

In other words —

7th and 8th years are alternated in everything but grammar							
5th	6th	"	"	"	"	"	"
3rd	4th	"	"	"	"	"	arithmetic
1st	2nd	"	"	"	"	"	lang. & N. S.

Program Is Suggestive. It has seemed best to give this program in some detail because it is an approved way of

meeting the problem at its worst and not because the conditions it represents are typical of rural schools. The one-teacher school is usually small and if there are pupils in each of the eight grades they are so few in number, in the highest grades at least, as to make the problem of reducing the number of classes to be heard during each day not so difficult as it might appear from a study of the program presented. If the number of pupils of two grades, or years, combined should be as large as twelve to fifteen, there should be no alternation in such a case. It is desirable only when the number of pupils per grade is small. If there are eight grades, the lower four averaging eight pupils and the remaining averaging four there would be no alternation in the first four grades. And such a school would have to be regarded as large for one unassisted teacher. With alternation in the four higher grades there would remain a program of six divisions instead of five as shown above. Usually, however, such a condition does not appear, there being so few as a rule in the higher grades that they can be taught without burdening the general program with formal classes. When any of the grades, or years, are not represented it is an easy matter to modify the program and omit alternations. However, when classes are very small it is recommended that several be combined in certain subjects under any circumstances.

The Formal Recitation in School Programs. However highly we may regard the latest ingenious developments of program making, we should not, simply in obedience to tradition, ignore the manifest short-comings of any program whose controlling feature is the formal recitation. The program which has just been studied is divided into two parts,

it is true, a schedule of recitations and a program of study periods for each class. The arrangement gives an order of subjects for study for pupils who are not reciting. But the matter of importance in teaching is the time of "mental contact" between teacher and pupils. Even though pupils have a long time for study, they are left to themselves in it, the teacher is otherwise engaged *all the time*.

The Teacher's Time. She hears the pupils recite in the program just studied from twenty-six to twenty-eight times a day. Ten to fifteen minutes are devoted to each recitation time, usually only ten. If there are twelve pupils per class the average time each pupil has in each recitation is usually much less than a minute per day per subject and for all the studies it would not average five minutes a day, considering that the teacher also takes up some of the recitation time. That is, the first grade, for instance, studies with no help from the teacher all but fifty minutes and the seventh grade all but ninety minutes of the school time each day, to have less than five minutes to say something about all the subjects they study taken together. The teacher devotes the whole time to recitations but hears from each of the pupils less on each subject than one can say in a minute.

Original Function of the Oral Recitation. The oral recitation has an ancient history, dating back to the time when the subject-matter was wholly of such a nature as not to admit of investigation and inquiry. For the younger children the form of instruction was catechetical; older students heard a master of exegesis explain the sacred text. In both cases the exact form of the language was essential. Proof of retention was given by the pupil when he literally recited from memory. School work has since become public

and secular in content and the curriculum has been widened to relate closely to the interests of daily life. The old mechanism of the daily program is out of harmony with the newer content and with aims that require independent thinking on the part of the student.

Recitation as Related to Subject-Matter. But we seem to think we must have children recite and recite in every subject. We make sure of this and of this alone. And we are particular to make a just distribution of time between the rival subjects, often giving a larger place on the program for what we consider difficult and analytic subjects than for subjects that are more purely adapted to expression and expatiation. We regard arithmetic with oral reading and grammatical analysis with oral composition as equally oral recitation subjects. Which of us, who as students went through the mill of oral analysis of mathematical problems year after year through the grades and the high school, have now a consciousness of the practical life value of such performances? Or what do we now think of the value of the elaborate formulas for parsing and analysis which repeatedly consumed the class time through vain reiteration.

The view that mathematical analysis has to be oral in order to be effective for life needs is manifestly unfounded. No one that we know does his everyday arithmetic that way and no one formally parses or analyzes a sentence to get its meaning. If, moreover, we use the oral recitation purely as a test of knowing, we waste much time with our wordy formulations.

Importance of the Day's Work. It is hardly necessary to insist that the daily program is of utmost importance. The time units of which it is made up are final in determining

the character of the larger divisions in days, weeks, months, and years. What is done at each period devoted to a subject during the day is ultimately the measure of all that is done. If we find, then, that all the time of the teacher is taken up in recitations, and recitations so short that they cannot satisfy the purpose that called them into being, it seems that the program is nearly destroyed in the making. And this is true because every other factor of school work is usually ignored for the sake of oral recitation.

The Essential Factors of School Work. Given a certain amount of time the question is what shall be done with it? School work, as every one knows, is mental work. The factors that are involved in it are psychological. Every total psychic event consists of sensory activity, association, and motor response. On the neurological side they are commonly represented in a diagram such as the following:

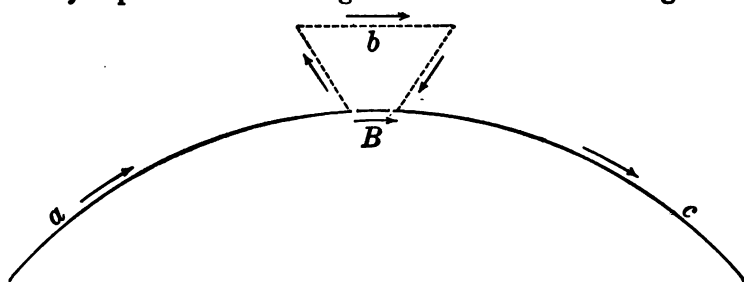


FIGURE 8

a — sensory fibers.
receptors

b — association area.
adjustors

c — motor fibers.
effectors

On the instinctive level neural activity goes by way of *a, B, c*. This route represents the immediate response to a stimulus among man and animals. More and more as the child grows older and learns from experience sensory im-

pressions are referred to the higher level *b* for control of the responses. Education means growth of the association area. Responses may be inhibited or deferred. Sensory impressions may become memories, or ideas, before they are elaborated in the association area. We can collect data and defer organizing them and we can organize them and defer giving expression of our results.

The following correspondences with *a*, *b*, *c* may be noted in connection with the factors of school work:

<i>a</i> <i>sensory impression</i>	<i>b</i> <i>association</i>	<i>c</i> <i>motor expression</i>
Logical terms:		
subject	thought	language
Pedagogical terms:		
the assignment	study	recitation
Manual activity:		
material and effect to be produced	plan	construction
Nature study:		
collecting specimens	classification	
observation	analysis	report
Geography:	organization	report
getting data	organization	report map diagram graph
Household arts:		
properties of material	preparing	serving
Arithmetic:		
conditions of problem	analysis	solution
English Composition:		
material and effect to be produced	organization	composition and oral delivery
evidence	brief	argument

The corresponding factors in spelling are, first, finding the words that cause trouble and finding where the trouble lies, second, fixing the right associations, and third, making use of the words in writing.

The lower down we go in the grades, that is, the younger the child the more immediately continuous the course of psychic activity will be. As children grow older, the power of inhibition increases. The power to deliberate before responses are made is one of the results of school training. In our everyday life as we go from place to place or read the newspapers we often exercise *a* a great deal without much of *b*, and as for *c* we have relatively little opportunity to talk our ideas all out. But it is not always necessary to call a group together whether in school or in life to present in language the results of thinking. All that may be needed to satisfy the demands of *c* is *constructive use*. This may be communicative or not. We may make mental use of the material of thought.

However, it is not intended to minimize the importance of any of the three factors of school work. When any of them is too much ignored in the school program or too much emphasized all the rest will suffer. For instance, if the language response is emphasized at the expense in time of those activities of the school which are really the necessary antecedents of expression, there is no real gain to the child and perhaps it would be better for practical life to be somewhat exercised in thought without expression rather than expression without thought.

a

Too Many Impressions. In considering each of the factors separately, it will appear that the school must aim at a

fair balance among them. It is possible to have too little or too much of any of them. There may be too much of *a*. This will lead to confusion of thought and will check the powers of organization. It is worse than futile to assign a lesson too long for thorough organization. Students sometimes, under the department plan, may be required to look up too many references not by any one of the teachers but by all of them together, each one apparently thinking that no other teacher requires any. We have the same effect in the grades when the tempo of the class work is too fast. Getting too many impressions, seeing too many pictures, visiting too many galleries, is not only dazzling and confusing but also fatiguing even though the experience itself is pleasurable. Under these conditions *c* as well as *b* will fail.

Too Few Impressions. There may be too little of *a*. A man of little observation and limited reading will probably over-elaborate the few ideas he has got. He will make more of the facts than belongs to them. Inferences will be far-fetched and thought and language will be shallow. In school when pupils are hard pressed for lack of matter they will speak in very general terms. They have no thought to express because they have had nothing to think about. In school there may be too few books to read and too little concrete material. The assimilating powers of young children are unusually strong and there is little danger of confronting them with too much material so long as it is on the level of their appreciation. It is through *a* that the field of the school's activities should be extended. The material for use in study should be brought from the home, the farm, the field, and the woods. If the school is not favorably located

for such extensions, animal life may be brought into the schoolroom in an aquarium or terrarium. In the lower grades each child should care for a single plant in its cycle of life from seed to seed and later should join the school garden movement. Besides, the school should have as a part of its equipment a phonograph and a moving picture projector.

b

Over-Elaboration. There may be too much, relatively, or too little of *b*. Unwarranted inferences or unsound judgments, and the too active pursuit of a single idea, are the result of too much elaboration of limited data. "Jumping at conclusions" without taking into consideration enough of the facts that are available is one of the common faults of thinking in school as well as life. The same theory may serve to explain too many problems. It is a fault of little knowledge and much experience in teaching to fit a common method to every type of practice. It is the case of the child's delightful fancies which are the achievement of an active mind with a limited amount of constructive material; a lack of balance in the early years between mental vigor and experience in the world. It is the case of Hamlet who thinks but does not act and who although he has flashes of brilliancy achieves but a broken and fitful frame for the thought that is in him. It is the case of the hermit in his cell and the philosopher in his attic.

Want of Elaboration. The opposite is so common and well known among teachers that it needs no discussion. We know how little children learn of organization of material and how little opportunity the school program usually gives

them for the exercise of this power. It is not because it is difficult *per se*, for on their own level of experience kindergarten children are capable of it; it is rather because of little practice in this normal mental function that it is avoided for the more familiar and easier route of mechanical memory. Then the language of some one else is substituted for one's own thought and language.

c

Empty Language. When we consider to what extent preliminary factors may be neglected or overemphasized we need not wonder at disappointing results in expression. In the public school program too little is made as a rule of *a* and *b*. The verbal showing made at the fixed intervals of a program of formal recitations reveals the short-comings that precede. There may be an unwarranted fullness of expression; the exercise of an active external mechanism of language to compensate for emptiness within. Thus a program of oral recitations gives practice in talk when one has really nothing to say. One may hold that habituation in the use of correct language forms is in itself valuable at least in the lower grades or in the case of children of foreign parentage, but one may finally question the educational value of language that is not informed by one's own thought.

Cross-Purposes in the Recitation. But usually when the time of the teacher is devoted to hearing recitations, the issue is not so fortunate. The pupil's efforts at expression are halting and utterance is fragmentary. Then the teacher comes to the rescue with promptings and suggestive questioning. In the end little is done to justify the time spent in school or the cost of maintaining it.

We are, in fact at that period of transition in the history of the recitation when it serves a double function. Influenced by the modern aim of school work it consists of questions and answers which are in the nature of oral tests of the effect of study. On the other hand we expect fluency of language and continuity of thought. This can be had under the ordinary conditions only as a summary of the fragmentary work done in class of which several individuals are the sources of the fragments. These functions should be wholly separated. The recitation proper should be a continuous whole of language and thought. In a well-organized program special provision will be made for this kind of exercise. Probings, questioning, and oral tests bring results which are also of the character of *c*, but they are relatively incomplete results incidental to *b* as revealing weaknesses of organization for immediate correction and in preparation of the continuous recitation proper in topical form.

Modern Program Requirements. Since re-citing is no longer the sole function of school because of the nature of the studies in the modern curriculum, it is necessary to consider ways and means of giving such recognition to the other essential factors of school work as will give the pupil a sense of their importance. The relation of the teacher to the program of all the work that is done should be to impress upon the pupil that there are at most three things to do for effective learning in any subject. There is a psychology of each: of observation, thinking, and expression. While in the first three grades where the proportion of oral work is large it may not serve a good purpose in practice to draw the line between them too closely, beginning with the fourth grade, these processes provide a psychological basis for a

distribution of work between groups of any size of the same grade or of different grades combined pursuing the same study. Directions are given simultaneously to a group whether it be an assignment or what to do with the assignment. While this is taking place another group is studying an assignment previously made and afterward a possible third group is tested on the results of their work. Probing for results may be made orally or in writing but always with the view of getting at the status of the individual. Preliminary to this in any group there may be an exercise in development. Before the new assignment is made to any group there may be a summary of what preceded the day before. It will not take long in any case to find out how the work is going. The teacher is at hand to help out with difficulties or she may think it best for the student to strive alone. The exercise may be varied by competition between groups, or one group may be engaged in testing another with open book before them on memoriter work. The teacher's time is devoted alternately to the different groups. How much time will be required for the factors of preparation cannot always be determined in advance. For the gathering of data, for making observations, etc., and for thinking out a problem we cannot properly fix time limits. For routine drill in fixing associations or for any kind of routine repetition or the exercise of the mechanical memory, we can make a fair estimate of how long it will take to cover an assignment. We can say to a child you may repeat orally or write out certain multiplication tables or you may play games for the next half hour. That period of time can be filled up even. But in original work, that is, work done for the first time and not in the nature of repetition, the processes will

not come out even with a fixed period of time. If any pupil gets through before the time limit has expired he earns a leisure to do something else in the courses that especially interest him or he may prefer to advance more rapidly and in time join a higher group. If he does not succeed as a rule in getting through with the others, it may be better for him to drop down to the next group below. Promotion, or the contrary, becomes feasible particularly if all the groups work in the same subject at the same period. This gives opportunity to exhibit relations of the parts to the whole and avoids the necessity of a frequent change of mental "set." Instead of having ten or fifteen minutes for each of several unrelated subjects in succession, related matter is arranged and, if possible, thrown together. Variation to prevent fatigue and monotony can be had within the limits of the longer periods by a change of the character of the exercise whenever the need for it is felt.

Organizing a Program. Instead of having a daily program of isolated and consequently formal exercises, the subjects may to a large extent be organized as means and ends. In their nature they may be characterized as one or the other. For instance, an oral presentation or a written composition is an end for which reading or observation and thinking are means. Reading for content is a means of gathering material for thought on a subject such as history or geography. If in school we read for thought we might as well read for the kind of thought we have use for in one of the content studies. We need not limit ourselves to this kind of reading, however. We can also read literary selections but also with a motive; for we will allow considerable time for general exercises where we will satisfy the

desire for public performances for which the whole school forms the audience. Here a second or third grade will show how well they can read or recite poetry or tell a story. This is the place for the recitation. It is prepared for during the regular periods. It differs from the work of those periods as it is a prepared-for and uninterrupted performance. Other grades can prepare a dramatic piece to present or compositions to read or deliver.

There may be pedagogical organization within the limits of a period. We put Numbers and Hand Work or Constructive Work in the same period, for the little folks can thus apply their numbers. We put Spelling in so far as it relates to the observation and study of words in the same period with Reading. It appears again in connection with use in Written Composition. The periods are related to each other when, for instance, Reading contributes to our thought on the geography or history lesson for to-day or to-morrow. And all the periods, some more than others, may be directly or indirectly related to what is done at the general exercises.

The question and answer form of recitation will be a part of every lesson; that of connected thought and language is reserved for general exercises. As it is an exercise in language, in communication or expression, it requires a real audience and the motive of an occasion. Without a motive any exercise of language whether in school or life becomes artificial. The recurrence of the recitation at stated intervals when there is no occasion to prepare for, reduces it to a routine performance even though it is related to content rather than form studies. As a form of exercise it is best suited to memoriter or motor drill. To hear only

such exercises requires no great skill. The resourceful teacher wastes time in a daily program limited to such performance.

The following program "successfully used by a teacher of two grades"¹ is a form of flexible program. Each grade is divided into two groups A and B. The groups vary from six to twelve pupils each.

CHART XXII

9:00- 9:15 Opening Exercises.

9:15-10:30

5 min. Assign problems to 6A at seats; assign problems to 6B at blackboard.

35 min. Develop topic with 5A.

15 min. 5B recite on topic developed yesterday and studies during preceding 40 min.

(Following day 6A has new topic in 35 min.

5A recites 15 min., 5B works at blackboard, 6B at seats.)

Arithmetic
(55 min.)

(On the next day, 6B has new topic, 6A recitation, 5A at board, 5B at seats, etc., as closely as the nature of the work permits.)

(In this room it is convenient to use the fifth day in each week for combining groups in review and drill work.)

10:10-10:50

10 min. Review 5th grade on essentials of yesterday's lesson and outline advanced assignment; 6th grade preparing.

Geography
(40 min.)

30 min. Recitation or development in 6th grade; 5th grade studying

(Reverse on the following day.)

¹ Bennett: "School Efficiency," New York, 1917, pp. 177-178, Ginn and Company.

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10:50-11:10 Both grades together, alternating with drawing, arithmetic drill, or supervised study period.

Singing
(20 min.)

11:10-11:50 Reverse geography schedule for the day.

History
(40 min.)

11:50-12:00

(10 min.) Spelling and penmanship drills for those below standard.

1:00-1:40

Period divided about equally between the two grades, not divided into permanent sections. Time varies with selection but is balanced from day to day. Once a week all combine in some selection of interest to all.

1:40-2:35

Language Composition usually instead of blackboard work.
(55 min.)

2:35-3:00

Hygiene, 5th grade Mon. & Wed.; 6th grade study. Physiology, 6th grade, Tues. & Thurs.; 5th grade study. Current events, all, Friday.

A Suggested Departure from the Recitation Program.

An eight-grade program with many pupils to provide for in a one-teacher school presents a discouraging situation under any scheme of management. However, even here one departure might be made from the daily succession of oral rehearsals. The formal recitations might be omitted at times to give the time to showing the children how to prepare for them. Then recitations would be had only when preparation had been made and pupils had something to say. Especially at the beginning of a term, there might be no reci-

tations at all for a few days or a week. After a time the pupils would learn what it means to prepare and as they gain the power of self-direction more and more, there would be increasing time for recitations.

Organization Within the Time Periods. In the work of the primary grades this kind of organization would bring scattered periods for Copying, Reading, Blackboard Work, Written Work, Language, Nature Study, Numbers, etc., together under two heads: Reading and Language, and Numbers. Drawing may be related to the Reading work, or Language, or Nature Study. Nature Study is often either book work or preliminary to report in language. Hand Work is combined with Numbers because it will serve for the application of number. When thus organized, studies do not remain isolated memories easily forgotten, but they become a part of the warp and woof of knowledge actually established by constructive use.

Following is a second grade program in present use in arithmetic, reading and language, nature study, drawing and writing. A period of 30 minutes is devoted to General Exercises. There are two sections. The periods are long, but as they are varied in character of the exercises, they are not more tedious than if a certain number of fixed minutes were set down for each exercise. Without fixed limitations the exercises will yield to organization. The time division is as follows:

CHART XXIII

8:30-9:30 General Exercises

 A child tells a story

 Several poems are recited

 Song by all

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9:00-10:00	Arithmetic
	Review drill with number games
	Application — Hand Work
	Development of new work
	Written exercise
10:00-10:15	Recess
10:15-11:25	Reading and Language
	Oral exercises
	Silent reading
	Spelling and dictation
	Seat work
1:00-2:00	Nature study
	Observation
	Drawing
	Writing
2:00-2:15	Recess
2:15-3:15	Reading and Language
	Oral expression
	Seat work
	Written work

Note.— Five minutes of physical exercise gives further variation in every hour of the program.

Organization Between the Periods. This is best illustrated in the higher grades. For instance, silent reading has a large place here. Hence the teacher may organize the work so that the reading period will not be aimless but contribute something to the work in history, geography, or perhaps physiology. The History period itself will be largely reserved for the use of material gathered in Reading and for the study of the meaning of events, past and current. The Geography period will be largely for study and construction work in map-making from observation, map-reading, etc. While Spelling is organized within the period on the one

side with Reading and on the other with Composition, Composition itself will also be an end for which the work in Reading, Geography, History, etc., are the means. Literary reading and dramatics will not be neglected. Writing is a means to Composition, and Drawing may be used to illustrate Composition. Nature Study in the higher divisions is organized with Geography and both are the end for which field excursions are the means. In a program for the 4th and 5th grade with Reading, Arithmetic, Language and Composition, Geography (Nature Study), History, Spelling, Drawing, Writing, Music, and Physical Training to provide for, the two grades being in the same room and under only one teacher, the distribution of the time between the grades would be as indicated before, in connection with the other programs, on the basis of the different factors of mental work.

CHART XXIV

PROGRAM FOR FOURTH AND FIFTH GRADES

- A 8:45- 9:15 General Exercises
 Music
 Program an outgrowth of the work of preceding days:
 Readings, recitations, dramatic work, etc., etc.
 (C) (E)
- B 9:15-10:15 Arithmetic
 Application to home problems, geography, gardening, nature study, etc.
- 10:15-10:30 Recess
- C 10:30-11:30 Reading
 Study of words — Spelling
 Literary reading and dramatization (A) or

		Geographical and science reading or Nature study and hygiene (G) or History and biography (stories) (H)
D	11:30-12:00	Writing and Drawing
E	1:15-2:15	Language and Composition
		Written use of words — Spelling
		Written composition
		Sources of material — (C) and life
		Preparation for (A) or (H)
F	2:15-2:30	Physical Training
G	2:30-3:30	Geography (Nature Study) or History (1 day)
		Home geography and map-making and map-reading
H	3:30-4:00	General Exercises
		Same as (A) but especially story telling of animal life, biography, and history (including current history)

Note.— On days when it is desired to make an excursion for observational nature study, G and C may exchange places and D may be omitted. Correlation between the Periods is indicated by letters in parenthesis.

Directed Study. Thus the time not employed in the recitation is organized for directed study, and study, moreover, with an immediate purpose to use the results. This is a practical way of meeting the needs of an organized study program when the teaching force is too small to carry out more comprehensive supervised study plans.¹

Departmental Programs. When a school curriculum is divided into departments with a teacher in charge of the work in each, dividing classes into groups becomes partic-

¹ For various ways of organizing time for study in Intermediate and High Schools see Hall-Quest: "Supervised Study," The Macmillan Company, New York, 1916, pp. 94-160 and Appendix pp. 399-408.

ularly feasible, and the time the pupils remain with the same teacher can readily be distributed as the needs of the day may require. In the public school system of Gary, Indiana, the regular studies are divided into two departments; arithmetic, history, and geography being grouped in one, and reading, writing, spelling, and composition in the other. "Half the day is given to the regular studies, and half the day to special activities. The regular studies occupy two periods of 90 minutes each, one in the forenoon and one in the afternoon. Each regular teacher has but one class at a time, and the way in which the time is divided, whether in recitation, study, individual help, or otherwise, depends upon the needs of those in the class."¹

¹ Burris: "The Public School System of Gary," Bulletin 1914, No. 18, U. S. Bureau of Education, p. 14.

CHAPTER XIX

THE PLAY INSTINCT IN SCHOOL WORK

ALL forms of activity whether in school or life may be comprehended under the terms of work and play. An attempt will be made in this chapter to point out the more important marks of distinction between them because of their relation to an intelligent management of the activities of school life. To know something of the difference between work and play is essential to the motivation of school work.

Play and the Development of the Self. First Stage. The development of the forms of activity parallels the stages in the development of the self. The initial powers by means of which the child's self merges into being are willing and feeling by means of the nervous structures transmitted by heredity. The first field in which they operate to develop themselves is the physical body of the child. In this stage the child's muscles learn to respond to impulses from within, an early antecedent to the development of voluntary control of the resources of the body.

Second and Third Stage. In the second stage of development the operations of the growing self are extended to things beyond the body by means of the control now partially established. There are things to be reached for, to go to, to remove from one place to another. A further extension is made through the use of tools; for instance, a

stick or some other object is used to effect a change in the surroundings. And then there are things that resist and their resistance has to be overcome, affording further growth of voluntary power and also marking out the bounds more definitely between the self and the not-self.

At first things and persons in the world around are reacted to indiscriminately as things; then persons and things are reacted to as persons; finally persons and things are distinguished. Thus through the child's play activities the self develops; becomes limited, rounded out, and unified. This is nature's own way, and there is no other way, for the child to develop the self. In summary, the first essential in the development of the self is the hereditary nervous structure with which the child manifests its hereditary will and feelings. This is the means of gaining acquaintance with the resources of the body. The body is in turn the means of becoming acquainted with things and other selves.

The child's play activities run parallel to these stages in the development of the self. There is first a kind of play which is due to pleasure in activity for its own sake. Second, there is a kind of play in which the interest lies in how things behave. Third, there is a kind of play in which the interest is in persons, who are made to act in one's own person because, unlike things, they are not under our immediate control.

General Agreements and Differences Between Work and Play. Before distinguishing types of activity, it is well to bear in mind that any form of human activity is a mental as well as a physical event. One that seems to be predominantly physical in its manifestations still has a mental component, as one that is regarded as mental has also a

physical component. We are concerned here with the mental component of all the forms of activity. All activities run a course. They are accompanied by different mental states at different moments of their course. Work and play begin differently, they end differently. They are initiated with different degrees of psychic impulsions and carried on in different degrees of suspense. There may, to all outward appearances, be no difference in intensity of application or in foot-pound results, but they represent different kinds and degrees of satisfaction or dissatisfaction during or at the close of the course of the activity. They differ in the degree they enlist curiosity in the outcome, in the plot interest they arouse. The fundamental basis of distinction between the types that follow will be the degree in which they engage the total self and the point in the course of the activity upon which the consciousness is chiefly focused.

TYPES OF ACTIVITY — PLAY

I

We shall regard the first kind of activity mentioned above in tracing the development of the self as type one. It has been described as an impulsive movement or a mechanical response to a stimulus from within. It is here that we come upon the Spencerian principle of excess energy, which is released through outward movement. Bodily movements of this kind in time become pleasurable and are then made for their own sake.

Besides the spontaneous movements of children in kicking their feet, curling the toes, stretching and bending the limbs and trunk, the gambols of animals illustrate this form of play. But pleasure in movement for its own sake is a part

not alone of play but also of work. The general feeling of well-being prompts activity in either. But the point to be emphasized here is that there is a type of play in which this is the chief pleasure. Other forms of this activity are primitive emotional dancing and the natural dances of childhood. Under this head come also gymnastic exercises. If the attainment of superior skill becomes the dominant motive we have the amateur acrobat, gymnast, swimmer, etc.

When this activity is play there is perfect freedom of initiative. One can begin or stop the activity whenever one pleases. The interest is in the activity for its own sake. There is no accumulation of interest in any part of its course; that is, it is void of plot-interest.

When it becomes work, freedom of initiative is limited. When exercises are undertaken at regular intervals under direction for the purpose of strengthening some muscle or improving the general health, they pass beyond the realm of play. When freedom of initiative and continuance is limited by the professional contract made by a skilled performer, for instance, this type of activity becomes work. To make it work, however, does not take away the pleasure in doing it.

In school a teacher can safely count on pleasure in activity for its own sake, whether mental or physical, as a fundamental impulse. This is true whether it be directed work or free play.

Plot-Interest in Play. But interest in activity is much increased if, instead of being evenly distributed, it is cumulative; if the interest is directed chiefly to the outcome. In other words, plot interest is the controlling motive of play as distinguished from work. This is the chief interest in

all the types of play that are to follow ; interest in the activity for its own sake is either subordinate or lacking.

II

Very soon in the life of the child in connection with the development of the sense of self, plot interest develops. The first form which it seems to take is interest in what the self can achieve. Without freedom of initiative this interest in the self would not be possible. For instance, a child takes pleasure at first in learning to walk. So long as there is some uncertainty of the outcome, the achievement brings satisfaction to the ego. When the movement has been learned and becomes automatic, interest is lost in it. It may be recovered by self-imposed handicaps. All along the interest is ego-centric —“ See whether I can do it.” The child will try in succession, perhaps, to keep its equilibrium while walking on a narrow board, on the top rail of a fence, on a branch of a tree, on a taut rope. It will try other modes of locomotion such as hopping on one foot, jumping rope, etc. With “ I can do it ” comes much satisfaction to the ego. There is a feeling of equality with those who are imitated and of superiority over the younger children. In the meantime these apparently useless activities have increased the sense of balance and improved walking and allied movements.

Too seldom in school do we connect the growing sense of self and the pride of power with ability to do school work of a difficult character. It would be well to challenge the ego by saying, “ I’ll give you something hard ; I wonder whether you can do it ; I believe you can.” Freedom of initiative is taken away when teachers insist always on sim-

plifying the approaches to difficult problems. One of the most important elements of training is the power of attack. This is developed only by a skillful appeal to the child's total self.

III

The third type of activity does not consist in exploring the resources of physical powers but in producing a change in the world of things around. Again freedom of initiative and plot-interest are the characteristics of the play side of the activity. But now the interest is, at least at first, in how things behave; what will happen to them if you interfere. An early form of this activity consists in testing the sense qualities of objects: a spoon is dropped from the table, for instance, to hear the sound it makes, a ball is rolled and bounced, blocks are set up, thrown down, and set up again. Again the interest is not in the activity but in the outcome. The interest is in results, in what happens.

Plot-Interest in a Ball. As the child grows older the ball as a plaything affords increasing possibilities. Being round and rolling it seems like a thing alive. There are more possibilities of chance in a ball than in any other form of plaything. What will happen with it is an interesting uncertainty to the child. There is an infinite number of directions it may take. It is a willful and wayward thing. The difficulties and uncertainties are enhanced in adding the use of the bat, as rounded surface meets rounded surface. In other words, the ball, and the ball and bat, are replete with plot-interest.

In the individual child's play with objects the course of the activity is short. There is little waiting for the result

and the patience is not strained. Under certain conditions, when the course of the activity is prolonged, there is a heightening of the interest in the outcome. But plot-interest may be present in short as well as long games. Under this type come such childhood games as tag, drop-the-handkerchief, blind man's buff, etc. The difference between games for small children and for larger ones is always in the length of what may be called plot-development.

Heightened Plot-Interest. The competitive game brings in a new factor which greatly heightens plot-interest. Another personality now confronts us, not things which are pliable, adaptable, and passive. This kind of activity enlists the full powers of the normal individual more than anything else in the world. Again the interest is not in the activity for its own sake; it is in who beats. The more uncertain the outcome seems to be in the course of a game, the stronger is the plot-interest; first for the players and then also for the spectators. If the interest were in the activity for its own sake, the movements would be made self-consciously and would be mentally disturbing and a hindrance to success. Play cannot become a pleasure at all until one can forget everything else and focus attention on what is to be accomplished. To be sure, one does not think of the last result directly in the course of a game but on all the critical moments and minor climaxes as they come. Every ball that is thrown or batted is watched to see whether it arrives or where it goes. The interest is always in the outcome with its possible satisfactions or disappointments. If this can be surely predicted, interest is lost for the man who is sure to win, the man who is sure to lose, and for the spectators.

Feeling of Responsibility. In a competitive game the interest in the outcome is so intense because personal responsibility for losing or winning is always clearly fixed. This is closely related to the state of the total self. The player is always conscious of this responsibility. It gives the loser an uncomfortable feeling. He makes all sorts of excuses to himself. He looks intently at the bat after "three strikes and out" or perhaps throws it aside angrily, as if to shift the disagreeable feeling of responsibility. After a misstroke at tennis he looks at the racket to find an excuse for his fault. He explains defeat by loss of sleep, stiff joints, or indigestion, trying to shift the blame from the total self. If he succeeds there is just a general feeling of well-being without specifications.

The Quitter. While theoretically a player is free at any time to quit or continue playing, personal honor limits this freedom and compels him to play a losing game through. If he does not, he is reproached with the universally opprobrious name of quitter. To play a losing game is to make the activity a burden. Strictly the quitter is one who, although he plays on, has lost all interest in the game because of the way it is going. He is prematurely discouraged. This spoils interest in the outcome. It can too easily be predicted.

Summary of the Characteristics of Play.

1. Freedom of initiative. This is possible in school activities only to a limited extent. However, it should be the teacher's aim to encourage it in every possible way. There may also be group initiative when children are allowed to plan general school exercises. When a program is flexible and individual children have the opportunity to earn a period

of leisure, occasions arise for the exercise of initiative. Even in the regular work of the school there are children who show leadership and a power of self-direction in advanced work that is not definitely required.

2. The consequence of individual or group initiative is that the responsibility for losing and credit for winning are clearly indicated. Winning begets confidence and the consciousness of power. Losing has the contrary effect. When children work in groups in which they always lose in a contest, they become discouraged and demoralized. The groupings should be so made as to prevent as far as possible the habit of failure.

3. Play absorbs the attention; that is, it engages the whole self. A divided interest or attention is fatal to success. In the strenuous games out of doors a divided attention is "losing one's head," "going to pieces." It is caused by a momentary attention to the activity itself or the movements made or brooding on failure to score, or on the errors made. The exercise of playing games makes for mental health, in that it gives practice in concentrating attention on the main issue. To do otherwise brings its swift punishment.

4. Variety of experience is assured in a game which leaves considerable latitude for the play of the accidental. The teacher should study how to promote a reasonable amount of variety in the regular school exercises. This tends to introduce into the work an element of play. When children can always predict the course of an exercise, it will soon become monotonous. This is deadening and should be avoided.

5. Plot-interest. This is the central play interest. It absorbs attention and is heightened by freedom of initiative

and a variety of incidents. To begin with results some one else has discovered is fatal to good work in school, especially in the field of natural science. The pleasure of discovery is one of the vital rewards of school work.

6. Satisfaction at the end of a course of activity are the primal rewards to those who reach the goal. They are to be described as a general feeling that all is well, a sense of fitness, a feeling of capability and efficiency — a total self-feeling which can better be felt than described. The feeling of confidence gained is an integrating force favorable to concentration and future success.

These are several of the ways by means of which school work may be vitalized by appealing to the energy of the child's total self. This is how "to put one's self into one's work" as the popular phrase has it.

On the other hand, to make the school activities purely work and nothing else (a procedure which a few writers seem to prefer), to impose the exercises upon the pupil and leave him no initiative whatever; to let him remain silent until he is spoken to; to take all plot-interest out of the exercises, removing all doubt in the beginning as to how it is expected to come out; to make all exercises as uniform as possible so that children may be able to predict what is going to happen every moment in advance; call on the children in order; exhibit results at once and have the children learn what they are. These are some of the ways to make school children acquainted with the work side of their exercises.

Play as Mental Hygiene. In the development of the self it is the need of activity that impels a child to play. It is also the need of unified action that causes a child to

concentrate his attention upon the issues of the game. Play is practice not so much to prepare the muscles for future work but to integrate the action of the nervous forces. In the types of activity thus far discussed, the child learns to command his resources, to make the body serve the dictates of the will, to concentrate his energies at any particular point and in quick response to the needs of the moment. Thus is promoted a habit of concentration instead of a divided attention.

IV

When through a certain amount of experience in self-directed action the child finally rounds out a sense of a unified self, he further extends his field of experience by transferring his personality to other persons. This is the *fourth type of activity* to be distinguished. It is called dramatic imitation. As said before, the child plays because of the need of activity for normal mental as well as bodily growth. Thus he also becomes acquainted with things in the surroundings. But things are amenable to immediate control, persons are not. For this reason the child assumes the character of other persons in order to use them in play.

The Play Illusion. The child puts himself under illusions, for illusion increases the educational possibilities of the objects of play. For instance, a little girl plays that her doll is sick and that she, its mother, is greatly worried; the boy learns the story of Jack and the Bean Stalk and then puts himself under the illusion that he is Jack. The child is at once dramatist, actor, and spectator. The illusion created may be of several degrees of depth. In one, the con-

sciousness that the child creating the illusion and the other person are actually different is always present; in the second, the consciousness of this difference seems momentarily lost and there are actual tears, which have been seen in the nursery as well as on the stage.

In this kind of play, dumb, lifeless things may be imitated as well as persons and animals. The former usually serve for comic effects. But in all cases objects of importance to the child's view are used for dramatic imitation in order to heighten plot-interest in the play of adventure; for what happens to the child in his own person is of little consequence, but what happens to Napoleon, for instance, who is present in person, is an exciting adventure.

This type of play activity used in school in connection with history, composition, and reading has the most powerful educative effect. It is easy to introduce, for the resourceful imagination of the children will readily supply all deficiencies of costume and stage properties.

A related motive is imitation of the social, industrial, and political environment. Children in the adolescent period, particularly, will be interested in doing what their elders do. Thus the Red Cross and Thrift Stamp campaigns were not only used as motives for school work but were carried on in school in exactly the same way as outside.

Again, older students sometimes engage in school work with greater earnestness when it is related to permanent life interests. It is the imitative impulse that accounts for the passion to apply the tools of knowledge to the problems of practical household and business management.

v

Constructive Activity — Play and Work. The fifth type is practice in realizing an idea through material means. (a) It is the type used first by the child when in the block-building and paper-cutting stage of its development. The result of the activity is variable. One must try and see. The chief interest here too is in how it will come out; that is: there is plot-interest in constructive work of every kind so long as it is not repeated according to specifications; so long as there is no uniform standardized product. In building an article of furniture or a house, painting a picture, carving a statue, there is freedom of initiative, variety of incidents, possibility of success or failure, responsibility, suspense, and satisfaction with the completed product. (b) When the end is necessarily foreseen, when the work is so certain to come out in a specified way that it can be contracted for and delivered in accordance with specifications, this form of activity becomes work, although it does not lose all the characteristics of the play activity. The constructive worker may still put plot-interest into his work if he has rising or at least changing ideals. He may destroy all executed designs and plans. But if he repeats the product with a machine and like a machine with unvarying regularity, the play element will be lacking. When the work becomes automatic, the self will be entirely disengaged and taken up with some other object or idea.

Constructive activity in school should function as play and recreation. Manual training should be carried on for recreative purposes like athletics. It should go as far along a certain line of work as is necessary to prove to oneself

that he can realize the idea or design. Repetition for automatic mastery is not necessary for general training and is not educative.

VI

Work. In this type of activity the interest lies in the constant product and the constant material reward. This is to be sharply distinguished from all other types. This is work, and work only. In this case the product is made according to specifications and indefinitely multiplied. The process of production is repeated until the unforeseen no longer happens. Every movement becomes habitual, all the parts are standardized, the product is unvariable. Here there is no uncertainty of the outcome, no plot-interest. If I am not convinced that the worker will produce results according to expectations I will not hire him. The contract limits freedom of initiative or change.

In all other types of activity there were opportunities to exercise free ideas. Here the worker is capable of free ideas only in connection with the material reward of his labors. With this he may do what he pleases. This is his motive but it is not a necessary characteristic or circumstance of work. There may be work without this result. The work of the school is without a material reward, as a rule. In fact such a motive for school work is universally condemned as the lowest possible; especially is this true of the elementary and the secondary school. Here we see that we cannot hold to the well known distinction that in play interest is in the activity, while in work it is in the result of the activity.

But when there happens to be a material reward for

work, it becomes to a certain extent the worker's field of free ideas. What to do with the proceeds is a matter for him to decide.

VII

However, at this point we pass to a seventh type. In case the worker's wages are always required for his bare existence, there are no free ideas connected with the reward for his work. If he has no surplus, he has no choice whether to spend or to save and if to spend, what for. So much as he receives for his work is only necessary expense for "up-keep"—food, clothing, and shelter. This is the type of work that animals and human slaves that are well cared for have in common; the return is only sufficient to keep the animated machine in repair for continued work. This is also the parallel of the situation of the household drudge who has a just sufficient allowance.

VIII

In all the preceding types of activity there is in no case a denial of a consciousness of being a cause. This consciousness is confirmed when one sees the result of the work or social manifestations of approval. This is a source of gratification to the humblest worker. It is one of the most powerful motives to excel in all the fields of art and skill. One of the most precious rewards for the school child is to have the product of his work exhibited with his name attached to it.

Imagine that neither the worker nor any one else that he knows of ever recognizes the product as his work, and add to this the denial of free ideas and the gratification of the

self before mentioned, and we come to the level when the individual is no longer a person but a machine. The mere machine knows nothing, needs to know nothing of results.

In summary, the eight types of activity may be grouped as follows: I to v(a) are forms of play; v(b) to VIII are forms of work. In general, when an activity is limited in scope and tends to uniformity of method and sameness of results, we have work; when an activity has a wide range of possibilities, a possible variety of incidents, a fixed personal responsibility, and an unpredicted outcome, we have play.

Other Forms of Play — Preliminary Practice. This has usually all the appearance of the form of work called drill. It is, however, to be classed as play simply because it is preliminary to it. The tedium of drill work in school may be relieved by transforming the activity into a competitive game. Many teachers hold, however, that even so some routine drill work is absolutely necessary. But even this may be relieved by having the children understand that they are preparing for the competitive game which is to follow at once or at some other period of the day. This is a way of vitalizing the most deadening routine drill that seems so necessary at times.

Amusement. In amusement there is a passive interest in the activity of some one else. Criticism of the play motive in education has been due largely to the confusion between play as an active and play as a passive interest. When people condemn teaching that aims to keep the child interested, they have in mind a form of exercise in which the teacher is active and the children passive; they cannot mean one that engages the sum of the child's active energies.

And it is correct to assume that the kind of appeal that the school child requires is one that engages the total self as in active play, and not one that engages only the contemplative interest which characterizes amusement. There are educational values of a high order in amusement, too, but they are adapted to the adult mind rather than that of the child. The child's interest in the appreciation side for instance of music, the drama, and the arts is limited; but on the productive side, in making music, in acting, in printing, and in modeling, its energies may be fully engaged.

Dawdling. Dawdling is keeping busy at one or more tasks to excuse ourselves for shirking another which we greatly dislike. An apt illustration of this is given by William James: "I know of a person, for example, who will poke the fire, set chairs straight, pick dust-specks from the floor, arrange his table, snatch up the newspaper, take down any book which catches his eye, trim his nails, waste the morning *anyhow*, in short, and all without premeditation, simply because the only thing he ought to attend to is a noonday lesson in formal logic which he detests. Anything but that."

Relation of the Scientific Interest to the Drudgery of Work. Much of the work that is usually regarded as drudgery may be relieved by the illumination of knowledge. If science and method can be applied to any activity it may reveal an ever deepening interest. This has come to redeem the work of the household and the farm. The application of chemistry, botany, and physics has done much to dignify the labor and mitigate its drudgery.

In the schoolroom the application of individual psychology will also relieve to a great extent certain routine ex-

ercises and improve the teaching. The correction of English papers will be more interesting when the teacher can discover in them manifestations of individual character. The opportunities for this will be much enhanced if the exercises given are of such a kind as will allow a latitude for the expression of individuality.

Mental Parallels of Physical Types of Work. Activities that are almost exclusively mental in character are to be classified in the same way as the physical types. In the mental field we also have as the first type, activity for its own sake. This is uncontrolled association of ideas, the activity of our periods of relaxation which at times we call reverie.

Then come controlled associations, which in play are self-imposed.

The third type is the game in which objective symbols guide the mental operations.

The fourth is illustrated by dramatic constructions.

The fifth is illustrated by artistic activity including the creation of literature and music. When this is done under contract as, for instance, in literary hack work — work under contract to produce so many lines at a certain time for specified pay — it is not art but work.

Under the first part of five (Va) comes the management of an enterprise. The manager has a wide scope of activity, is to a large extent free to choose his time, exercises initiative, takes responsibility, meets unforeseen emergencies, cannot absolutely predict results as a whole, hopes for the best. The operatives of the factory have little responsibility except to be on time and be faithful machines. If the enterprise is failing for the time being they need not even know

about it. A certain type of mind dislikes to take the initiative and shuns personal responsibility everywhere. Persons of this type are happiest when their activities are reduced to the automatic, for it relieves them of the responsibility of having to initiate thought about anything. The more original type of mind will not long be content with monotony, will rather study out a machine to do the work.

In school we have a type who are soon wearied of drill exercises and prefer original or concrete problems, another who are helpless with problems that require them to initiate thought. These prefer the mechanical mental operations and never seem to weary of drill.

Summary — How to Vitalize School Work. Finally to summarize what may already be inferred, to put vitality into school work — stimulate individual initiative in thought and act, assign individual work as far as possible to cultivate a favorable attitude to assuming responsibility, stimulate individual and group competition within reasonable limits, make the work constructive rather than contemplative and critical, exhibit results of individual pupils, give opportunities for discovery, dramatize history and stories, let the children imitate the contemporaneous political and social activities of adults, let the children plan their general school activities, avoid monotony, and in general assume the attitude of deference and courtesy to each individual child in order to nourish the sense of individual significance and of being a responsible part of the school community.

CHAPTER XX

FOOD AND SLEEP

Prophylaxis. The school activities for which plans are made with the utmost care so that every minute of a child's time may be educative in all ways, cover a period of only one-fourth or less of the whole day. The school should not obtrude unnecessarily upon anything that is within the peculiar province of the home, but it is a matter of great importance to the economy of its management that some account be taken of the child's life out of school hours. If the whole round of each child's daily activities were surveyed, it would clear up many of the problems of discipline and would reveal to what extent the practices and attitudes of the home support or hinder the requirements of the school.

The kind of home life that is good for the physical, mental, and moral well-being of the child is the very thing needful for the child in school. *The whole child goes to school.* What he is for three-fourths of the time at home he will be probably for one-fourth of the time at school. This is most strictly true on the physical side of his nature. The firm basis of general health must be established at home. But modern psychology goes further by contending that preventive physical hygiene has a close relation to both mental and moral prophylaxis; that is, a proper physical regimen is to a large extent preventive of all ills whether physical, mental, or moral.

As we have seen in other chapters, there are many ills the flesh is prone to, but there is also possible an increase in the power of resistance which will reduce the virulence of disease or repel its attack altogether. And nature, with an accumulated strength of many centuries of race survival, prepares man for arduous physical labor, for mental work, and to go through moral crises, by means of good and sufficient food, regular and sufficient sleep, and a certain amount of well-distributed recreative exercise.

While this is true for all people old and young, it has special force as related to the children of school and pre-school age. For the value of these preventive measures is not alone good for day by day needs but they are indispensable in building up a stock of the fundamental resources of character that will last through the future years.

Food. When children come to school with insufficient nutrition and energy from improper or too little food to profit by the work undertaken, something must be done at once if the efforts of both teacher and pupil are not to be wasted. School feeding has resulted in increased efficiency and improved behavior in school, but it is a temporary measure. It is not the final solution of the problem. The child needs three good meals a day to build for growth and permanent strength. Undernourished children may suffer the consequences of their condition long after the immediate cause of their ailment no longer exists. "Of children born in the famine years in Europe, in 1816 and 1817, an unusually large number proved unfit for military service."¹ We are told that for lack of sufficient fat in their ration.

¹ Tyler: "Growth and Education," New York, 1906, p. 121, Houghton Mifflin Company.

there was a great increase in tuberculosis among Belgian children. In all the warring countries a rise in the mortality from tuberculosis is reported, presumably due to the extraordinary food restrictions. Waywardness and juvenile crime have also been everywhere on the increase.

The rapid rise in the cost of foodstuffs has made the need for home instruction universal and immediate. In a study made under the auspices of the New York Association for Improving the Condition of the Poor it was found that 76 per cent of the families studied were getting less than the standard requirements of food. But the problem of food and health conservation affects all classes alike. Science must be brought into the kitchen to guide in the selection of what is required to sustain life in normal health.

"Never before has it been more necessary for the housekeeper to bear constantly in mind the fundamental facts regarding food values and food requirements. In some cases the new situation may simply have constrained her to cut out certain luxuries from her grocery list. In other cases it has been necessary to spend more money for food, even at the expense of other necessities of life. Some families are simply doing without food which is absolutely essential. Economy there must be, but it should be economy carried on with intelligence. The diet of children must be not only well chosen but plentiful, if the youngsters are to grow and thrive."¹

This situation has more than ever before made the problem of children's food the common interest of the home and the school. Fortunately, it finds at hand a household economics department established some years ago with a

¹ "War Prices and Undernourished Children," *Good Housekeeping Magazine*, July, 1918. Reprinted as a publication of the Child Health Organization, New York.

well-settled theory of food values. There is no longer a disconcerting conflict of opinions in regard to what is proper food and the needed amount and proportion of its different elements that are needed to sustain the body in health. But the teachers of cooking can no longer under present conditions limit the field of work to the schoolroom. Here not all the children are reached and the need of instruction for parents upon whom the problem presses most heavily is universal and immediate.

Food Campaigns. Hence, the public school systems through their home economics department are making systematic campaigns to bring to the knowledge of the parent the simple facts of food economy and the proper feeding of children. The first step is to make a survey of dietaries in the homes in order to find what knowledge is lacking. In one city, for instance, in order to obtain data for more intelligent service in the lunch room, a survey was made in regard to the amount of milk children drink daily at home. This revealed rather surprising conditions.

The investigation concerned 13,601 children of the kindergarten and elementary schools. It revealed the fact that only 7 per cent had the amount of milk a child should have every day and that more than half had no milk at all. The following are the figures in detail for these schools:

Number of Children 13,601	Milk Used per Day			Other Beverages		
	1 qt.	1 pt.	½ pt.	Coffee	Tea	Beer
	7%	19%	20%	37%	18%	9%
	Total 46%			Total 54%		

It seems from these figures that only 46 per cent of the children use milk and that 54 per cent use none at all but

instead drink coffee, tea, or beer. These facts revealed at once the direction the campaign for better child feeding should take. To encourage a more general use of milk, leaflets were prepared for free distribution on "Milk" and "Ways of Using More Milk" with the purpose of bringing to the attention of the parents certain well-ascertained facts about milk as a diet, such as the following:

Milk is our most valuable food.

Milk is meat and drink.

Whole milk contains everything necessary for growth and for good health.

Milk is the one best food for children under sixteen.

One quart of milk costing 15 cents, gives the same value as one pound of lean beef, costing 35 cents, or one pound of eggs (9), costing 35 cents, or one quart of oysters, costing 75 cents.

Save in other foods if necessary but not on milk.

Give your child a quart of milk every day for his chance to grow and be strong. Milk will help him to win in his fight against disease.

Milk and bread with cereals, fruit and vegetables should be the daily diet of boys and girls.

Notice children who do not get milk; most of them look pale and undernourished.

Does your child get a quart of milk every day? ¹

Theory and Practice. A food campaign such as is here described is an administrative measure, concerning chiefly the home economics department. It is directed to the parent. The pupil in school may be reached in various ways. He learns something of food values and prices at luncheon time from the outlines and tables on the blackboard. In connection with the book work in hygiene he learns, too,

¹ Seventh Report of the Board of Education, 1917-1918, Louisville, Ky., pp. 88-96.

something about good food habits¹ such as being on time at meals, eating at regular times and not between meals, learning to like food that is good for him, avoiding highly seasoned foods, taking time to eat, being clean, and being of good cheer while eating. And then, too, children are appealed to in terms of patriotic duty to make themselves strong for the service of their country.

A practical application of the rules of diet is, of course, the only way to solve the problem in all those children of lowered vitality who especially need help. In the larger cities there are thousands of children suffering from malnutrition. The demonstrations that have been made with groups of such children prove that increased weight and vitality will follow proper feeding.²

How a Teacher May Know Whether a Child Is Well-Nourished. There are certain well known marks of malnutrition which have always been recognized. These are a dull expression, pale cheeks, and dark rings around the eyes as against bright eyes, red lips, and rosy cheeks. There have been attempts to measure it in more scientific ways. But of all, the most important index of nutrition is *The Relation of Weight to Height*. To this have been added *the annual gain in weight and height* and *the general appearance of the child*. The last named is often unreliable, the second shows wide variation in different races, communities, and families. The first remains as the only one that it is safe to depend on.

¹ "The Diet of the School Child," 1918, Child Health Organization, New York, 15 pp.

² "Demonstration and Its Application," Child Health Organization, New York, 14 pp.

*Height and Weight Table*¹

The standard or normal weight for a child is found where the horizontal column opposite height crosses the vertical column under age. The age is taken at nearest birthday.

CHART XXV

For Boys

Illustration — The standard weight for a boy 57 inches high and 13 years old is 83 pounds.

Height Inches	5 Yrs.	6 Yrs.	7 Yrs.	8 Yrs.	9 Yrs.	10 Yrs.	11 Yrs.	12 Yrs.	13 Yrs.	14 Yrs.
39	35									
40	37	38								
41	39	40								
42	41	42								
43	43	44	44							
44	45	45	46							
45	....	47	47	48						
46	....	49	50	50						
47	....	....	51	52	52					
48	....	....	53	54	55					
49	....	....	....	55	56	57				
50	....	....	....	58	59	59				
51	....	....	....	60	61	62	62			
52	....	....	....	....	64	65	65			
53	....	....	....	....	67	68	68	68		
54	....	....	....	....	70	71	71	72		
55	....	....	....	....	....	74	75	76	76	
56	....	....	....	....	....	77	79	79	80	
57	....	....	....	....	....	....	81	82	83	84
58	....	....	....	....	....	....	84	85	87	88
59	....	....	....	....	....	....	....	88	89	91

¹ From Standards of Nutrition and Growth, Child Health Organization, 289 Fourth Avenue, New York.

Height Inches	5 Yrs.	6 Yrs.	7 Yrs.	8 Yrs.	9 Yrs.	10 Yrs.	11 Yrs.	12 Yrs.	13 Yrs.	14 Yrs.
60								90	92	94
61									97	99
62									100	102
63									104	106
64										112
65										118

CHART XXVI

For Girls

Illustration—The standard weight for a girl 50 inches high and 9 years old is 59 pounds.

Height Inches	5 Yrs.	6 Yrs.	7 Yrs.	8 Yrs.	9 Yrs.	10 Yrs.	11 Yrs.	12 Yrs.	13 Yrs.	14 Yrs.
39	34									
40	35	37								
41	39	39								
42	41	42	42							
43	43	44	44							
44	45	46	46							
45	....	47	47	47						
46	....	48	49	50						
47	....	....	50	51	53					
48	....	....	52	53	54					
49	....	....	....	55	56	57				
50	....	....	....	57	59	60				
51	....	....	....	....	61	62	63			
52	....	....	....	....	65	66	67			
53	....	....	....	....	....	68	68	69		
54	....	....	....	....	....	70	71	71		
55	....	....	....	....	....	....	72	73	74	



Courtesy of the Child Health Organization
FIGURE 9

Height Inches	5 Yrs.	6 Yrs.	7 Yrs.	8 Yrs.	9 Yrs.	10 Yrs.	11 Yrs.	12 Yrs.	13 Yrs.	14 Yrs.
56							76	77	77	79
57								79	82	85
58								85	88	93
59									92	95
60									97	99
61									99	102
62									104	105
63										107

Only scales with bar and weights should be purchased for school use. Spring scales with dial face are not very durable and are likely to get out of order soon.

Measurements for height should be taken with the child standing with feet close together and close against the measuring rod, or for school use a measuring tape may be tacked against a wall and a book placed on the child's head, edgewise, to mark his height.

Every school should have a weighing and measuring equipment. A ten cent tape line tacked against the wall and a pair of scales with bar and weights will serve the purpose.¹

Nutrition Depends Not on Food Alone. Good food is not sufficient to correct malnutrition and bring about an increase in weight. There must also be fresh air day and night and sufficient sleep.

Sleep. In sleep we have another protective and preventive function. It is, like food and recreation, a means of

¹Holt, L. E.: "Standards of Nutrition and Growth," 1918, Child Health Organization, New York. Standards given here are taken from this valuable pamphlet. For details of method and equipment consult this same source. For devices by way of tags, classroom weight cards, etc., to interest the children in weighing contests write Child Health Organization, 289 Fourth Avenue, New York.

resistance to the demands made upon our store of energy. If, as was held in another chapter, D (disease) is equal to M (the cause) over R (vital resistance), sleep is one of the three factors which increase R. It is universally prescribed as a remedy for nervous breakdown. Of the few who have made extensive investigations of its function, nearly all agree with the conclusions of Claperéde, who says: "Sleep is a protective function, an instinct having for its end, in striking the animal with inertia, to prevent it from arriving at a condition of exhaustion. We sleep, not because we are poisoned or exhausted but so that we shall be neither poisoned nor exhausted." That is to say, we sleep not because we are poisoned by the toxin of fatigue but to prevent such a condition.

The Amount of Sleep. Authorities on sleep are not agreed as to the exact amount of time that is required for it at different ages. The estimates given by several of them, for children of school age, vary as follows:

Age	Estimates vary from
5-6	11 - 13½ hours
7	10½-13
8	10½-12½
9	10½-12
10	10 - 11½
11	9½-11
12	9 - 10½
13	8½-10
14	8½-10
15	8 - 9½
16	8 - 9
17	8 - 9
18	8 - 9

The uncertainty as to the amount of time that should be taken for sleep by school children does not hold for those of pre-school age. Infants under one year should have a total of fifteen hours in twenty-four, under two they should have not less than fourteen, under three to five not less than thirteen. For all children under twelve it is safe to incline to the maximum estimates given above. For children of lowered vitality and underweight the maximum hours must be taken. In general, it may be said, the younger the child the greater the necessity for long and regular hours of sleep; for sufficient sleep is one of the factors in building a sound physical constitution to which the life of the young child is specially devoted, and regular hours make not alone for health but in addition are the beginning of habits that will prove to have moral value.

Quality of Sleep. As children grow older a limited loss of sleep does not show any ill effects. And for the older children the amount of time given to sleep is so much a matter of individual habit and need that there seems to be no connection between the amount of sleep and efficiency in school work. In an investigation by Terman and Hocking of 2,692 children between 6 and 20 it was found that "the school grades of the ten pupils receiving the smallest amount of sleep did not rank below the grades of the average sleeper, but instead slightly above."¹ It would seem that quality, rather than quantity, combined with regular habits of rising and retiring is a matter of importance in the hygiene of sleep. This principle may explain why there is a difference in the amount of sleep required by different persons. New-

¹ Terman and Hocking: "The Sleep of School Children," *Jour. Ed. Psy.*, Vol. 4, 1913, pp. 138, 199, 269. Bibliography p. 281.

ton and Leibnitz, it is stated, required only a few hours of interruption from their scholarly labors for sleep. Many persons find eight hours hardly sufficient.

But whatever may be true of adult men and women, for school children it is safe to hold to the requirement of regular hours, inclining to the maximum of nature's demands for those under twelve. Later, perhaps, quality may be improved by a lessening of the quantity. By the time the child has reached the age of twelve or thirteen, proper habits according to individual need should be fairly well established. Training should aim at regularity and at finding the minimum amount necessary to insure hygienic quality.

Quality of Sleep an Effect. But the quality of a person's sleep is an effect as often as it is a cause. It is a symptom of the physical, particularly nervous, condition of the child. One of the well-known causes of a disturbed sleep is indigestion due to improper diet, eating at unseasonable hours, gorging food after a long period of deprivation. The use of tea or coffee, or of cocoa or chocolate late in the day, is generally regarded as harmful and as bringing in its train disturbances or the postponement of sleep. It is also one of the many ill effects of obstructed breathing. Overstimulation whether brought on by physical or mental agencies is unfavorable to sound sleep. Extreme nervousness such as is indicated by nightmare or dreams of horrid monsters, of falling from giddy heights, of being lost in the woods, should arouse the concern of the parent and the teacher and justifies calling the attention of the school or family physician.

Sleep and Home Conditions. The living conditions in

the homes of both the poor and the well-to-do are often unfavorable to hygienic sleep. The retiring hour and the rising hour are both often too late. The rising hour should not be later than seven o'clock for all children above eight years of age. Then too children should sleep alone in a room and under any circumstances alone in a bed. They should sleep with windows open to allow a current of air to pass through the room at all seasons of the year. Any one can find on investigation that this necessary condition of healthful sleep is altogether too rare. This is especially true of country houses. The windows should remain open throughout the year, adjustment to the changing seasons being made by the amount of bedding. This may not be possible in the poorest families. Poverty is often the cause also of insufficient room; the one-room tenement where the parents and all the children eat, bathe, and sleep is not unknown in this country — a condition which for moral as well as physical hygiene should be forbidden by law in every state.

In Terman's investigation referred to above it was found that only 3.1 per cent of the children enjoyed open-air sleeping rooms and this even in the mild and equable climate of California. It is common in many homes to shut the windows tight in cold weather "to keep the warm air in" and thus save fuel. The teacher should know which of the children are poor sleepers and should find the causes of the disturbance and seek to correct the evils in coöperation with the parents.

John Locke on Sleep. It will be instructive to quote on the hygiene of sleep, John Locke, the founder of hygiene

and the apostle of discipline as a hardening process, and compare his views with those that obtain in our own time. He says :

“ Of all that looks soft and effeminate, nothing is more to be indulg’d Children, than *Sleep*. In this alone they are to be permitted to have their full satisfaction; nothing contributing more to the Growth and Health of Children, than *Sleep*. All that is to be regulated in it, is, in what Part of the twenty-four Hours they should take it; which will easily be resolved, by only saying that it is of great Use to accustom ’em to rise early in the Morning. It is best so to do for Health; and he that, from his Childhood, has, by a settled Custom, made rising betimes easy and familiar to him, will not, when he is a Man, waste the best and most useful Part of his Life in Drowsiness, and lying a-bed. . . .

“ Though I have said, a large allowance of *Sleep*, even as much as they will take, should be made to Children when they are little; yet I do not mean, that it should always be continued to them in so large a Proportion, and they suffer’d to indulge a drowsy Laziness in their Bed, as they grow up bigger. But whether they should begin to be restrained at seven or ten Years old, or any other Time, is impossible to be precisely determined. Their Tempers, Strength, and Constitution must be consider’d. But sometime between seven and fourteen, if they are too great Lovers of their Beds, I think it may be seasonable to begin to reduce them by Degrees to about eight hours, which is generally Rest enough for healthy grown People. . . . Great Care should be taken in waking them, that it be not done hastily, nor with a loud or shrill Voice, or any other sudden violent Noise. This often affrights Children, and does them great Harm; and sound *Sleep* thus broken off, with sudden Alarms, is apt enough to discompose any one. When Children are to be wakened out of their *Sleep*, be sure to begin with a low Call and some gentle Motion, and so draw them out of it by degrees, and give them none but kind Words and Usage, ’till they are come perfectly to themselves, and being quite dress’d, you are sure they are thoroughly awake. The being forced from their

Sleep, how gently soever you do it, is Pain enough for them; and Care should be taken not to add any other Uneasiness to it, especially such that may terrify them.”¹

Effect of Too Much Sleep. It is generally agreed among students of sleep that there may among adults be those who get into the habit of taking too much sleep. Increasing the amount of time taken for sleep has no necessary relation to the quality except to reduce it. According to Marie de Manacéine too much sleep results in an enfeeblement of consciousness through lack of exercise and in “an adaptation of the vessels to an abnormal state of nutritive circulation, to the detriment of the functional circulation.”²

The Cause of Sleep and Cure of Sleeplessness. In the numerous experiments made by Sidis, he came to the conclusion that sleep may be artificially induced by limiting the sensory impressions by closing the eyes of his subjects, inhibiting voluntary movements, and applying a monotonous stimulus. He found that children reacted more readily than adults to his methods of bringing on sleep, accounting for the fact “by the comparatively small amount of variability of conscious activity present in the child and the variability of mental content being an important factor in keeping up the freshness, continuity, and qualitative intensity of consciousness. Now, as the child depends entirely for the variability of its consciousness on muscular activity and external impressions, we can well realize that when those sources become limited and monotonous the child falls under the influence of all the important conditions

¹ Locke: “Thoughts on Education,” *Pitt Press Ed.*, pp. 14-16.

² Quoted in Bruce: “Sleep and Sleeplessness,” Boston, 1915, p. 31, Little, Brown and Company.

requisite for the induction of sleep. The child, in short, has no inner wealth of mental life to fall upon; it has little if any resources; that is why it falls an easy prey to sleep when the external resources lose their variability, become uniform, and monotonous.”¹

From this it becomes evident that when sleeplessness is not due to physical ills, it is to be accounted for among adults by subjective mental occupation, by worries and mental distress, with the self as the focus of thought. It may also be caused by such mental occupations as are carried on during the waking time, such as could then too be carried on with the eyes closed. The cure for this, therefore, would be effected by taking on objective interests as in games, sports, fishing, hunting, etc., such as can be shut out of the consciousness by the closing of the eyes. And sedentary habits should be exchanged for those of more or less strenuous activity so that when the attitude of repose is taken there may be a change to limited activity and monotony.

¹ Sidis: “An Experimental Study of Sleep,” R. G. Badger, Boston.

CHAPTER XXI

RECREATION

WITHOUT activity in the open air there can be no value to a regimen of food and sleep. The round of life requires fatigue before sleep, and hunger before food. Work or play in the open air will bring both a healthy fatigue and a normal appetite.

Nature provides the impulse for activity in children because they need it for their physical and mental development. Their impatience with any long-continued activity is nature's way of avoiding a limited routine and specialization of powers before growth has ceased. It is believed that too early a limitation of activity to the narrow and mechanical lines of work before the nerve-centers are fully developed by all-around play will produce a fatigue of a mild but chronic sort that will affect the whole of adult life. It has been held that the tramps of a country are recruited from those children whose play life was prematurely cut short by work. If the child's activity cannot be work, it must be play, and organized play; for children will not be able to plan spontaneously among themselves a sufficient variety of games either to keep up the interest or for all-around development.

Benefits of Play. Teachers believe in play as a growing modern need under the conditions of life in the cities. It is *hygienic* as related to normal individual growth and the

normal functioning of the various organs. It is *educative*, because when not formally imposed it enlists the whole self of the child; there is no exercise in which sense perception is so keen, discrimination so fine, mind and body so alert, with such quickness of decision and promptness of action, as in play. The school usually gives few opportunities for the exercise of mental powers on actual objective material except in the activities of the playground. If a child's play life is greatly limited or lacking it will have nothing left but its subjective self to be active in. It will more and more renounce the actual world, live in daydreams, seek solitude, avoid play and playmates, become estranged from society, confused in the presence of others, uncertain, self-neglectful, and irresponsible. To correct such a condition an enlarging activity with playmates and playthings is perhaps the only known remedial measure.

It is *recreative* and *recuperative*. It is an antidote for fatigue. Perhaps in some of its forms it realizes race memories or remote activities that had decisive value in the survival of the species. It restores the powers used up in work or worry.

It is *practice*. Through the play activities movements are learned which will be of service in the more serious activities of life. Play may to a certain extent anticipate the activities of productive industry.

It keeps children out of mischief such as fighting, teasing, pitching pennies, and predatory acts. It is estimated that an adequate and well-administered playground prevents or cures 50 per cent of juvenile delinquency.¹ In the games

¹ Curtis: "Does Public Recreation Pay?" *The American City*, 1913, Vol. VIII.

recognizing the need of rules and obedience to them in order to have play at all, is a practical lesson in the principles of civics. Other effects to be noted in passing are related to physical hygiene. The play exercise improves the appetite for food and checks the desire for narcotics and alcoholic stimulants. It gives the maximum benefits of the open air conditions in which it takes place. The value of food and fresh air depends upon the hunger of the cells and not upon eating the food and breathing the air. Physical exercise prepares the cells for their food. It prepares the mind and body for refreshing sleep. It is closely related to sex hygiene. It provides the occasions that induce regular habits in bathing. These habits established after exercise that starts perspiration are regarded by authorities in the matter almost as valuable as the exercise itself.

Value of Open Air Recreation. All classes of exercise or games are always most effective in the open air. Here there is room, fresh air, and usually sunshine. We have seen in past chapters that the school diseases make their appearance chiefly during the shut-in months. Inside the dust gathers and rising slowly is suspended in the air during exercises; outside, there is less dust and it is less dangerous. Besides, the outside provides the natural stimuli to activity. The tendency is growing everywhere to have the physical activity of school children take place in the open. There are those who believe that a gymnasium is not a profitable investment and some predict that it will in time be superseded by the well-equipped and spatial outside playground, where pupils will take their exercises in all seasons and weathers of the years just as they have always done in seasonal sports.

Universal Play Impulse. It is natural for the young child to play. Even among wild animals the struggle for existence is never too great to allow leisure for play under parent protection. The common sense of humanity appreciates games; they are the most ancient of all human institutions. Through all the turmoil of change from the beginnings of recorded history the children of the world from generation to generation and from nation to nation have joined hands in happy play. Empires, religions, and civilizations have come and gone but the simple games of childhood have remained almost the same in unbroken succession. More than forty of the simple games that the children of the world play to-day were played in the streets of Athens in the most glorious epoch of ancient Greece.

Like science, literature, music, and art, play speaks a universal language. There is no history more ancient than that of the doll and the cock-horse. Plutarch tells us that Agesilaos, the king of Sparta, played horse by riding a stick among groups of playing children. Socrates the philosopher was found by the young Alcibiades playing horse in the same way with his children. Greece was the greatest player nation of the world. The Greek played from childhood to gray old age. The first school for the Greek child was a play school. Here he learned courage and restraint, self-denial and patience, love and sacrifice. The Olympic game festivals were under the special patronage of the gods. With the physical development the games brought about came health, strength, mental growth, and beauty of form and proportion, which were all under divine favor. The play festivals were to the Greek people the greatest pleasures of life and it is said they could not conceive of a future

abode of the blest without a place for games. When the ten thousand heroes of the Anabasis reached the Mediterranean from the deserts of Asia, it was by arranging a series of competitive sports that they made known their gratitude to the gods. Play was worship.

It was the other way in the Middle Ages. In the severe ideals of that period toil was worship. It was then thought that exercises such as running, tilting, stone-throwing, wrestling, and jumping were devices of the Evil One "for capturing souls with pride." However, the renaissance reformers saw in athletic games a way of occupying minds that would otherwise be given over to evil-doing. Comenius regarded physical training as an essential part of school instruction and emphasized the need of suitable playgrounds adjacent to the school. Basedow trained his pupils in "racing, wrestling, poising, fencing, dancing,—in short, in everything that gives strength to the nerves, agility to the limbs, keenness to the senses, and firmness, mobility, and strength to the whole body."¹

It is widely claimed that the "nations that have given the most attention to the care of the body have not only been of superior quality physically but also have invariably attained the greatest mental preëminence."² Ancient Greece, regarded by many who are in a position to know as superior to any other nation in history, devoted more time to the physical training of her youth, according to Grote, than to all other branches combined.

¹ Kotelman: "School Hygiene" (not dated), C. W. Bardeen, Syracuse, New York.

² Sargent: "Physical Education," Ginn and Company, New York, 1906.

The larger modern nations have given much attention to the physical training of school children, Germany being known the world over for her system of gymnastics and England for athletic games and sports. The American predilection is like England's in favor of games and sports, and American athletes have been singularly successful in international contests.

The modern Olympic games, which the coming of the World War interrupted, are a revival of the famous games of Greece. The plan for them formulated in 1894 by Pierre de Coubertin, of Paris, provided that contests in athletic sports open to all nations should be held every four years in one of the great capitals of the world. American contestants have made splendid records in these Olympiads, carrying off highest honors in several of them. In the fifth and last held at Stockholm, Sweden, in 1912, the representatives from the United States led by many points; Sweden coming second, and Great Britain, Finland, Germany, and France following in order.¹

Physical Fitness as a Patriotic Duty. A nation must not only keep well but also physically fit for whatever emergency that may arise. The work that is done along these lines will be most fruitful of abiding results in children of school age. All agree that infancy and childhood is the time to lay the physical basis sure for manhood and womanhood. No other claim supersedes this. Nature begins the education of the child in this way from the first minutes of life. If mental development did not keep pace with physical growth, it could wait. From the patriotic point of view we should be reminded of the aim of education as

¹ *The Independent*, New York, Vol. 73, p. 172.

Milton defines it: "I call a complete and generous education that which fits a man to perform justly, skillfully, and magnanimously all the offices, both public and private, of peace and war."

Exercises in Physical Training. Two general types of activities of interest to teachers may be distinguished: formal exercises, and plays and games. Every day in most schools a part of the time is devoted to exercises in physical training for relaxation from sitting still at a desk and doing mental work. These are arm, leg, head and trunk movements, wand exercises, etc., given in obedience to commands. They require action in common with chin forward, chest out, head up, mind alert, and readiness to obey commands. They include marching, running, and dancing. They are intended to restore the body to normal functioning after close concentration; also, to develop the parts of the body so exercised, to form habits of good posture, to control impulsive movements, and to cultivate a graceful carriage. When these exercises are accompanied by music pleasure in their rhythm is much increased. They may be an improvised part of the program at any time during the day that the children seem to need relief in a change from a mental to a physical occupation. Or regular periods of considerable length may be devoted to them every day. In all cases, however, they must be carried on with all the windows wide open from the bottom. And this is only for the short exercises; when they are as long as fifteen minutes they should always be in the open air.

Interest in this kind of exercises has lately been revived because certain of them are in their nature like the military drill that has been adopted for high school training in

some of the states. Since 1916 fourteen states have revised their laws or made new ones on the subject of physical education. New York has a state-wide requirement of compulsory physical education with the minimum of 100 minutes' weekly practice for all school children. Illinois requires a minimum of one hour weekly for all grades. Four states have new laws providing for some form of military training in high school.¹ The purpose is to develop a strong physique and cultivate a manly bearing in boys.

This kind of exercise has certain values that are not necessarily military. It is group training in obedience to the command of a leader, which may become useful in civil life for the orderly disposal of large numbers of persons in the performance of a uniform and definite duty. However, most teachers prefer plays and games to formal exercises, and the prevailing opinion of school men is unfavorable to military training in the public schools.

Playground Interests. There are many playground games available for all schools, one book listing and describing 209 for elementary schools alone.² Playground interests are wide and varied. They have been divided into four classes. There is first the group of Directed Playground Activities.³ This comprehends those activities which are related to playground apparatus and its proper

¹ Bulletin, 1918, No. State Laws Relating to Education, Enacted in 1915, 1916, and 1917, U. S. Bureau of Education, 1919.

² Bancroft: "Games for the Playground, Home, School, and Gymnasium," The Macmillan Company, New York, 1915.

³ De Groot: "Recreation Facilities in Public Parks," *The American City*, 1914, Vol. X, pp. 8-15. Gives suitable equipment for a children's, for a boys' and for a girls' playground, with total cost for each of the three.

use. For the smaller children this kind of play is largely individual, consisting in the use of the sand-bin, the wading pool, the slides, swings, ladders, strides, etc., etc.

The second group of interests is Traditional Track and Field Athletics. This is for the older children who delight in competitive tests of strength and speed. This requires running tracks, high jump sets, shot-put equipment, pole vault sets, broad jump lanes, etc., etc. The third group comprises Traditional Games, the most popular of all, such as tennis, basket, foot, and base ball.

Finally, there are the Sports of the Season, such as ice and snow sports, water sports, hiking, bicycling, camping, picnics, etc. There is much need of a popular extension of interest in outdoor winter sports. The kindergarten is the only school that has in its way given a place in the program to this interest. The children suitably clothed are taken out in the open for a time at frequent intervals in the winter months.

Organization of Play. The history of the outdoor playground movement began about thirty years ago with the establishment of a few children's sand gardens in the city of Boston. In 1915 the city of Chicago had spent more than \$11,000,000 for recreational centers, which measures the remarkable advance of this movement and a broadening of its scope so as to include men and women.

According to statistics collected a few years ago, there were then in this country 3,270 supervised playgrounds in 414 cities with 7,500 summer workers and 1,050 the year round. In 163 cities (1915) school playgrounds were open for after-school athletics with 40,000 boys making use of them. In northern states facilities for recreation are ex-

tended by means of flooded areas to provide skating. In 129 cities there are 524 playgrounds operated under artificial lighting in the evenings.¹ But this is only a faint beginning for cities large and small.

There is a growing demand for extensive rather than intensive physical training. It is better to have the many enjoy the benefits of physical exercise than to train a few record-breaking athletes. The schools should be the center of the nation-wide program for physical betterment to avoid unnecessary duplication of effort and waste of time. Whether the aim be higher standards of fitness and health or pre-military training, this is a kind of national service that school children can give and it should be under the control of our educational forces.

Play in the Country. In the rural districts where so often the natural interests of children are neglected for the more serious concerns of the moment, there is a large opportunity for organized play. Hamilton County, Tennessee, found that the work of a paid organizer of games increased attendance in the schools nearly 20 per cent. The open country is particularly suited to play festivals and pageants. The rural school grounds should be large enough for base ball, volley ball, croquet, and basket ball, besides a sand-bin, swings, a horizontal bar, a running track, and a jumping pit. Every out-door yard should have a sand-bin, a swing, and a tent or a playhouse for the small child.

The country affords diversions and opportunities for adventure unexcelled. There is swimming, climbing trees, fishing, and hunting. And then in the country one can keep

¹ Dealey: "Educational Control of National Service," *Pedagogical Seminary*, Vol. XXIV, p. 245, June, 1917.

pets comfortably and without interference. For the various forms of spontaneous activities it excites, a fifty-cent dog is worth more than a ten thousand dollar gymnasium. There are predatory animals to track, chase, and kill, thus combining play and conservation. Each rat is said to be responsible for the loss of a bushel of grain and each English sparrow for a peck. For the older girls as well as boys, there can be motoring, horseback riding, several kinds of ball games, coasting parties, corn roasts, picnics, and camping out. Neglect of the country children in this matter of recreation, it must be remembered, means neglect of 59 per cent of all our school children.¹

Play in the City. In the city where play is much more in evidence than in the country, large numbers are not reached by the organized playground movement. In 1915 only 25 per cent of New York City children who must seek recreation outside of their homes were in attendance upon the summer playgrounds. It is often found that a large per cent of the children of the city schools do not engage in the popular forms of organized ball playing. In a large city of the Middle West where the average is high, one out of every three boys of the elementary schools over 8 years of age does not play base ball. Seventeen per cent of those who are over 10 years do not play. Among the high school boys only ten per cent do not play but seventy-four per cent of the players are not organized. One in five elementary

¹ Angell: "Play," Little, Brown and Company, Boston, 1912; Curtis: "Play and Education," The Macmillan Company, New York, 1914; Johnson: "Education by Games and Plays," Ginn and Company, Boston, 1907.

school boys over 10 years, three out of five high school boys, and two in five of high school girls play basket ball. In all the games the unorganized players are largely in the majority.¹

Ability to swim is a requirement in some schools for graduation. It is regarded by the highest authorities as the best of all exercises for the fundamental muscle groups, as the physiological ideal of activity for feminine development, and of all sports the most quickly recuperative. Reports from 3,308 public school pupils show the following:

No. of Pupils	Per cent who cannot swim			
	Elementary Schools, pupils over 8		High School	
	Girls	Boys	Girls	Boys
3,308	88	45	77	34

Sports in the Elementary School. The time to learn to swim for boys and girls is within the limits of the elementary school period. The statistics of swimming indicate that if the art is not learned by the 14th year only six out of a hundred learn after that age.² More than half of the children who swim had learned by the 12th year. Running is another exercise that is favorable to the proper development of the larger muscles. This, too, comes properly in the period of the elementary school. The favorite period for sports involving this exercise for girls is between six and ten years. Leaping is at all times a favorable exercise for boys and best for girls to engage in before 10 or 12. Rowing is of the highest value; for girls there is nothing better

¹ Johnson: "Education through Recreation," The Cleveland Survey Committee, Cleveland, O. 1915, 94 pp.

² *Ibid.*, *op. cit.*, p. 23.

excepting, perhaps, swimming. In general, it seems that the time for most active games which involve the muscles of the trunk, legs, and arms is the elementary school period.

A Scale of Play Values. The question arises whether there is a scale of values in plays and games or whether they are all alike. They have been classified into individual and social plays,¹ plays of sensation, plays of motion of parts of the body and of foreign bodies, destructive and constructive play. Gutsmuths classified them into movement plays and sitting plays; Richter, into plays of reception and plays of activity; Froebel, into physical, sense, and mental plays.

It is hardly possible to arrange games in order as higher or lower. However, certain of them are popularly regarded as less valuable than others. We do not think favorably, for instance, of games which allow the child to remain passive. The child is in the active rather than the contemplative age. And one may well believe that a child can give too much time to a park swing, a merry-go-round, or a chute-the-chutes or remain inactive too long with mumblety-peg, cards, or tiddly-winks.

It is also safe to say that not all games are of equal value at the same time of life. Adults take to certain childlike plays only when they feel like "acting up." Other types of play are always proper. If we should tentatively arrange plays or games we might put them in the following order:

Those of rhythmic motion, like *rocking* and *swinging* of early life — mainly passive movement.

¹ Groos: "The Play of Animals," D. Appleton and Company, New York, 1898; "Play of Man," D. Appleton and Company, New York, 1901.

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Those of motion without rhythm, like *sliding*.

Rapid exercise of an acquired power, like *running*.

Mastery of a power shown by doing it under difficulties, as in *hopping on one foot*.

Games in competition, like *tag, foot races*.

Social games in which the competitive idea is much reduced as they involve larger numbers and emphasize social good will, as *ring games*.

Imitations of life in the home as with dolls and dollhouses, of occupations as driving horses, engines, or autos, or of animals and persons as in dramatic imitation.

Constructive plays controlled by an idea to be realized with material means such as sand, clay, blocks, and later with the use of tools in fashioning playhouses, toy furniture, kites, boats, wagons, and other toys.

Group games with a system of rules to be observed requires a higher order of adjustment, as in *baseball*.

Much of the work that children undertake is done in imitation of their elders and has the force of play. They are likely to be influenced by whatever is carried on so that they can see it, be it gardening, motoring, music, or drawing. But they are interested in the active phase of these occupations or diversions, in the actual use of the pencil or brush, in singing or playing an instrument; the child will *make* music, or noise, and draw pictures somehow before there will be any passive appreciation of these interests.

Revelations of a Play Census. But it may be said that with all the interests that have been enumerated, the elementary school period would be overcrowded. Although no child pursues all interests, it would still be true that the elementary school cannot find time in its present program to satisfy all the normal yearnings of childhood. The child is not in school long enough. If we allow 9 hours for

sleep and 3 for meals and other necessary duties each day of the year, each child has a total of 4,380 hours a year available for work or play. Give him all of 52 Sundays and he would still have over 3,100 hours. Of these the school requires not more than six per day for 200 days or 1,200 hours. The question is what interests do children under working age follow for 1,900 hours?

A play census taken June 23, 1913, under the direction of the Chief Medical Inspector and the Assistant Superintendent in charge of physical education¹ showed what 14,683 Cleveland children were doing and where they were on that date.

CHART XXVII

A PLAY CENSUS OF 14,683 CHILDREN ON JUNE 23, 1913

		Boys	Girls	Total
Where they were seen	On streets	5,241	2,558	7,799
	In yards	1,583	1,998	3,581
	In vacant lots	686	197	883
	In playgrounds	997	872	1,869
	In alleys	413	138	551
What they were doing	Doing nothing	3,737	2,234	5,961
	Playing	4,601	2,757	7,358
	Working	719	635	1,354
What games they were playing	Baseball	1,448	190	1,638
	Kites	482	49	531
	Sand piles	241	250	471
	Tag	100	53	153
	Jackstones	68	257	325
	Dolls	89	193	282

¹ Johnson: "Education through Recreation," *op. cit.*

CHART XXVII — *continued*

Sewing	14	130	144
Housekeeping	53	191	244
Horse and wagon	89	24	113
Bicycle riding	79	13	92
Minding baby	19	41	60
Reading	17	35	52
Roller-skating	18	29	47
Gardening	13	14	27
Caddy	6	0	6
Marbles	2	0	2
Playing in other ways, mainly just fooling	1,863	1,308	3,171

These were children under the age of fifteen when play and general activity are required for proper growth; 41 per cent of them were doing nothing. They could initiate nothing; they needed a leader and organizer. Many were seen in the streets, 51 per cent, some playing, others not, but all were in the dust of traffic among surroundings that are not suited to the spirit of play. At the same time 36 playgrounds were open but only 1,869 or 11 per cent of these children were playing in them. It appears, therefore, that school plays and games are not interesting to the large majority of school children out of school hours. The influence of the school does not carry on during vacations. In all the free time which is longer than the school time, recreation is unorganized and uncontrolled. The school cannot change this without lengthening its day and year. In Gary, Indiana, the school day is eight hours long, and is divided into a period for study, a period for work in the shops or laboratories, and a period for play. It is aimed to control in this way the recreation activities of the children. If on account

of the hold of tradition such an adjustment cannot be made, the school must in this as in other things definitely extend its activities and gain support from outside agencies. The problem is to keep young people busy with what they like to do. This problem will be taken up in the next chapter.

CHAPTER XXII

AUXILIARY AGENCIES

Modern Needs. The school must have organized support from the homes and community in directing the recreation interests of the young or it must take more time and greatly increase its present working forces. But the complex character of modern life which the children though young must to a certain extent share simply because they are a part of it, requires an extension of the traditional lines of school work in other respects as well. The place of a number of the agencies which in one way or another can support the work of the school will now be considered.

Coöperation of the Home. That there is a vital connection between the home and the school meets us at every turn in all the phases of management. However, it is well known that coöperation between them is often lacking. The fundamental need to secure it is a common sympathy and understanding between the two. As the years pass that part of the province of education which was in former times reserved for the home is ever growing narrower. And what the family can no longer do, the school is largely held responsible for doing. On the other hand, it is not always clear to parents that the sole interest of the teachers is the highest welfare of their children. When the school leads, an isolated and cloistered existence in any community, mis-

understandings are likely to grow and pupils will give unwilling obedience and resist all efforts at guidance and control in an attitude of rebellion.

How to Win Parents. There is one proper way to win parents. It is to take a genuine interest in their children and, moreover, to manifest that interest first to the child himself by recognizing him as a responsible individual, appreciating his presence, missing him when absent, knowing him by name and by his interests, and acting on the assumption that he is truthful and trustworthy. He is not just one of a number and a mere unit in the mass. In the second place, this interest must be made manifest to the parent. A way to dispel misunderstandings is by conference. In many schools, however, the only time when a parent meets with a teacher or principal is when something has happened that either side feels must at once be corrected. Conference is not of permanent value when it takes place only when disagreeable matters must be settled. To establish mutual confidence and sympathy they must be sought on occasions that begin and end in a pleasant frame of mind.

The vital point of connection between the interest of the parent and that of the teacher is not so much in what the children may be assumed to be but what they can do. If they can get together on this common ground, the school visitor or mediator between them, employed in some cities, will not be necessary. When all other attempts to have the parents meet with the teachers in a social hour fail, school exercises in which their children have a part, given at a convenient time, will command their presence and bring them into pleasant relations with the teachers.

The Parent-Teacher Association. When parents be-

come aware of what the school is doing for their children in this way, a natural basis is established for a growing appreciation of the needs of the school by way of support from the home and the community. How an indifferent and rebellious district may in such a way be transformed for the good of a city school is well illustrated by a story told in the reference given below.¹ This is the natural origin of organizations such as the Parent-Teacher Associations, which are intended to bring about a common understanding of school aims and problems.

Possible Influence of Such Organizations. The conferences and discussions at the meetings of these associations and their ultimate influence in the neighborhood, should lead to at least three important things: to an interest in child welfare, to a home solution of many problems of discipline before they appear in school, and to an appreciation of the home as a sort of laboratory source of school projects and problems and as a field for practice of what is learned at school.

Every School Needs a Laboratory. The difficulties of enlarged responsibilities with a limited time program for their discharge is to be met by this new viewpoint and by a change of method. The school's new way to meet the problem of many studies is to organize them so that one may serve as a means to the knowledge of the other and to emphasize the practice of the common factor in all of them — orderly thinking. And furthermore, in the case of school children, thinking must be first done with concrete material. This must be somewhere accessible. In short,

¹ Patri: "A Schoolmaster of the Great City," The Macmillan Company, New York, 1917. Chapters IV and V, pp. 84-153.

every school needs a laboratory. The kindergarten has always had it. The blocks, sticks, yarns, colors, etc., are all things to work with and get impressions from. The sand, clay, and paper, satisfy creative impulses. At the same time the child is given opportunities for actual practice in social behavior with others of the same class. The kindergarten has ways also to make the practices learned carry over into the home. Some of the play material used may come from the home. The kindergarten pictures in a small way the correlations between the home and the school that should obtain in all public schools.

The traditional program of the elementary school, the high school, and to a certain extent the college, has, until recent years, been divorced from the concrete. Only in the more advanced classes and especially in the graduate school has the student been introduced to the microscope and experimental apparatus and been allowed to work directly with the basic material of the science pursued.

Between the kindergarten and the more advanced school work there is usually a gap of dreary formalism. And it is a significant fact that the educational critic judging by results, usually makes this period so scant of concrete interest the target of his attacks. It is widely held that in this country the only educational institutions that have proved generally satisfactory are these two at their best: the kindergarten and the graduate school. The new program demands that the traditional lack be made good by providing the more concrete material as a means of education in the grades where it has so long been neglected.

Hence, the school must open its doors to the field and the woods and the home. We cannot bring the laboratory into

the schoolhouse. It is too large. We must go out to it. And when we come to think that the child is in it every day under any circumstances, why not utilize the home and its surroundings as a laboratory for the school? Instead of having the pupil always stand before the teacher with hands folded and eyes to the ceiling trying to remember the number tables so often repeated, why not repeat these processes with a great variety of material and learn numbers while we learn also about the things. Also, instead of reading the same words over and over again in the same book, why not practice reading these words in ever new settings in a variety of readable and interesting books. A stock of supplementary matter from the library read for pleasure or for something one wishes to find out, is the laboratory phase of reading.

The Home as a Source of Projects. There is now a science of dish-washing, dusting, cleaning, and laundering as well as a chemistry and physics, and a science of cooking and an economics of buying and marketing. There is also a biology and hygiene in the care of infants. There is much waste of goods and life in American homes because these matters are not given intelligent thought. The school can connect with these interests and give superior drill in the three R's while it is doing so.

Little Mothers' Leagues. About eighty of the larger cities of the country have organizations known as Little Mothers' Leagues. In one of the cities there were in 1914, the first year the work was undertaken, eleven public and four parochial schools to take part in the movement. In three years in the same city 4,200 girls were enrolled in 28 schools.

The purpose of these organizations is to conserve the health and lives of infants. Membership is limited to the girls of the seventh and eighth grades. The meetings are held in the schoolhouses and are conducted in orderly form. Instruction is given and demonstrations are made by a school nurse. The lessons include simple definitions of terms used; home sanitation; care of the house, yard and alley; proper disposal of refuse matter; ventilation; disease carriers; the proper handling and care of the baby indoors and out of doors, including clothing, bathing, care at the time of eruption of teeth, the qualities of natural and artificial feeding, care of milk and its containers in the home, etc., etc.

Care of offspring must be one of the fundamental aims of education. In this kind of work the school serves its own cause when it saves the health of future children by spreading knowledge of hygiene in their early care. In some cities there are child welfare bureaus where mothers are encouraged to bring their children of pre-school age for examination, and any diseases or defects discovered are explained to these women in simple terms, and advice given, and in case of the very poor a free clinic is recommended. This advice is "followed up" by volunteer workers to see that it is carried out. Neglect of children at birth, lack of proper care, unsuitable food, bad housing, all contribute their share to a chronic condition of weakness, physical and mental, with which children eventually come to school, and measures then taken by school physicians to make them fit for their work may come several years too late.

The National Children's Bureau. This work is in line with the activities of the National Bureau of Child Welfare. This bureau was established to promote the physical well-being of infants.

The national campaign carried out in 1918 aimed at saving at least 100,000 of 300,000 children who die annually of preventable diseases. The first activity of the year was a test of children of pre-school age to ascertain whether they were up to the standards of weight and height for their ages. Millions of volunteer workers participated in the work, 7,000,000 record cards were issued of which over 2,000,000 have been tabulated. Many communities have engaged in a second test to note improvements. There were established one hundred and thirty-four children's health centers, to which mothers can go for expert advice concerning the best means of caring for their children.

School Gardening. This is an example of an educational agency which for many years was independent of the regular school organization. In the last few years it has grown in favor until it has become an integral part of school work in many cities and villages. It supplies attractive material for study and teaches a useful occupation. It has the desirable feature of giving occasion for the use of tools which are safe in the hands of the smallest school child. It can be pursued as a scientific and an economic project. Many a child welcomes the chance to engage in it as a means of earning some money. It is educational from the time of preparing the soil to the gathering of the crops, the marketing, and the settling of accounts. Besides, the work is carried on in the open air and sunlight and at a time when many boys and girls would be idle in the streets.

The movement gained a tremendous impetus through the organization of the United States School Garden Army with its million and a half boys and girls enrolled in 1918 and directed by 25,000 or more teachers under the general direction of the Bureau of Education. The campaign for food conservation gave to each child engaged in the work a

sense of aiding his country's cause and helping to control the fate of the people of other lands.

Under intelligent guidance there will be much use in this work for the three R's, and with the national and world-wide significance attached to it, the lessons in geography and history will hereafter mean much more.

School Savings Banks. When children learn how to earn money as in gardening, they should also be taught how to save. There is no other agency with a more definite aim than the school bank. It teaches thrift and something of the ways of practical banking, and without formal lessons. No other bank could serve this purpose in the same effective way. Its place of business is in daily evidence and at an appointed time it receives deposits. The attention of the children is constantly drawn to the existence of the bank and by that fact they are constantly reminded of the policy of saving. Thrift stamps and war savings certificates have been an added stimulus to saving among school children. Who can doubt but that all this outside experience will have a vital effect on classroom arithmetic, if the teacher knows how to utilize it?

Civics Clubs. These are usually formed in the eighth grade or the years of the high school and are intended for practice in the usages of parliamentary bodies and for discussions and debates relating to community improvement and civic betterment. In the larger cities a number of these clubs unite in a civic and vocational league or junior chamber of commerce in which the work done is given a large scope and wide outlook. The chamber of commerce supports the organization and coöperates with it. The declared purpose of the league in one of the cities is "to

study the civic and vocational life of the city by first-hand observation, to learn what opportunities the industrial life of the city offers to young people, to teach its members to think seriously and wisely concerning various occupations, to assist in preparing its members for an active and efficient place in these vocations, to connect more closely the work of the public schools with the life of the community, to teach its members to aid effectively in meeting the civic needs of the community, and to assist civic institutions in promoting the general welfare of the city.”¹

The Scouts Organizations. The scout movement has been called “the most significant educational contribution of our time.”² It combines with play and recreation all the educational interests described in the present chapter and many others besides, while it pursues its chief purpose of forming the character of youth. Its special province is the moral development of children of the teen-age. All that is taught and all that is done has a relation to the practical mastery of some line of useful work. Scouting is not lectures or talks by a master or teacher; it is more a system of action than of words, and this is the chief reason why it makes an effective appeal to children. It relates itself closely to the study of nature and experience with the forms of wild life; it is an open-air institution.

The scouts organizations aim to coöperate with the home, the school, and the church, and membership in them is not denied to any creed. They appeal to instincts of child life

¹ Eighty-seventh Annual Report, Cincinnati Public Schools, 1917, p. 68.

² Russell: “Scouting Education,” *Teachers College Record*, Jan., 1917, pp. 1-13.

that cannot be safely ignored in training. The simple uniform gives the scout a visible distinction and it is a guarantee of worthy conduct. The badges and insignia satisfy the natural desire for personal decoration, and there are so many of them that they arouse the collecting instinct. There are badges of rank, emblems and colors, merit badges, patrol signs, honor medals, and service stripes. For every stage of advancement there is a visible reward.

The Boy Scouts. According to the revised "oath," before he becomes a scout, a boy must promise: *On my honor I will do my best —*

1. To do my duty to God and my country, and to obey the scout law.
2. To help other people at all times.
3. To keep myself physically strong, mentally awake, and morally straight.

The laws he promises to obey are expressed in twelve short sentences. Without repeating words, they are: A scout is *trustworthy, loyal, helpful, friendly, courteous, kind, obedient, cheerful, thrifty, brave, clean, and reverent*. The motto of the scouts is: *Be Prepared*. The tests for advancement in the three classes of scouts include tracking, compass reading, fire building, thrift as indicated by a savings account, map reading, distance judging, administering first aid, camp cooking, signaling, describing plants, trees, birds, and wild animals, and training other boys. After passing all the requirements of the three classes a boy is eligible to qualify for various badges. These are awarded for knowledge and practical skill in agriculture, gardening, athletics, architecture, art, business, bird study, camping,

cooking, civics, archery, bee-keeping, marksmanship, personal health, path-finding, life-saving, signaling, electrical work, dairying, firemanship, swimming, public health, and many other activities.

That the training boy scouts receive has excellent results is shown by what they can do when called out for emergency service. In one city boy scouts were called out to act as traffic officers in the absence of the police. There was no question that "they knew just what to do and when to do it. They did not get excited neither did they become filled with self-importance. They took hold of a very complex situation in a masterly way and kept the traffic moving in accordance with the regulations."¹ Later they did a similar service in guarding fire-boxes against lawless elements for a city fire department. In such work they were excused meanwhile from school because of the practical civics value of their service.

Although the boy scouts were not organized to prepare for military service it is reported that the men in the Allied armies who had scout training gave proof of unusual efficiency. In Great Britain 20,000 of them were requisitioned for special non-military duties during the war.

Girl Scouts. The Camp Fire Girls and Girl Scouts are similar organizations for girls. The latter is a parallel to the Boy Scouts. It was founded by Miss Agnes Baden-Powell, sister of General Sir Robert Baden-Powell, the founder of the Boy Scouts. Its motto is the same and the "promise" and the scout laws are nearly the same. The age when a girl may become a scout is 10, two years less than the age requirement in the boys' organization.

¹ Local news report.

The qualifications for regular advancement in rank are to be able to tie useful knots, cook a simple dish, make a bed properly, make an invalid's bed, know what to do in case of fire, know what habits to acquire for health, work a button-hole, do plain sewing, set the table properly for the three meals of the day, bathe and dress a child two years old or younger, pass an examination in first aid, swim fifty yards, and know the simple laws of sanitation and ventilation. She must know how to distinguish and name ten trees, ten wild animals, and ten wild birds.

There are merit badges for knowing approved methods of resuscitation in cases of drowning, knowing how to teach a certain number of popular games, knowing the purposes of the Audubon Society, taking care of a baby for a specified time, keeping household accounts, knowing how to test milk, launder and press, use a rifle, play a musical instrument, turn in a fire-alarm, and for skill in gardening, domestic art, photography, and many other lines of work.

The girl scout is enjoined to put duty before pleasure, safety or comfort. "Do a good turn to some one every day" is a practical precept. No reward is accepted for helpfulness. Modesty in dress and deportment is inculcated. "Girl scouts are not loud and boisterous in order to draw attention to themselves" and they "do not allow desire for admiration of personal charms to rule their conduct." The girl scout is required to have a savings account, to learn to be a good housekeeper, avoid waste of every kind, and see that her clothing is cared for properly. She is enjoined "not to shirk difficulties or trouble but is taught to think her way through them smiling."

We can give only the principles, the scout method of

teaching them is by exemplification in the child's own practice. This seems better than to teach morals by dictated precepts or even by stories or moving pictures of moral conduct. Children under the legal age to work have too much time on their hands, which they do not know how to employ. This is especially true in small towns and villages. The scout organization and its activities would be a means of solving this problem.

But the scout organization needs closer relations with the teachers and administrators of our schools. The call for scout masters is very urgent and there are none who are better fitted for the work than teachers. The work of a scout master requires ordinarily three hours a week outside of school hours. The work of no organization has greater educational significance nor larger opportunities for constructive service than that of the scouts.

The Social Center.¹ The social center is first of all a place, and second an institution. All the agencies enumerated, of which the scout movement is the most comprehensive, are auxiliaries of the school. Although not all a part of the school organization, they all coöperate with the school in its broader educational aims. They represent no creed or party. All are at the same time community and school interests, and the schoolhouse is their local habitation. Here they are joined and coördinated, here they find expression and from this center their influence radiates.

But now this place becomes an institution and broadens its scope. The schoolhouse now becomes the community capital and parliament house, the forum for public discus-

¹ Jackson: "A Community Center, What It Is and How to Organize It," Bulletin, 1918, No. 11, U. S. Bureau of Education.

sions, for the consideration of questions that pertain to the welfare of the school and the community, the voting place where matters of local and political policy are decided. There may be exercises such as train in citizenship, like conducting a mock court, or a naturalization hearing; there may be exhibits of the home making, household economics, and gardening courses; there may be public receptions to new citizens, celebrations of a patriotic character; meetings of various society groups like the parent-teacher association, associated charities, home and school leagues, ward or village improvement associations, etc., etc.

There may also be educational conferences, exhibitions, lectures or talks, loan art exhibits, child welfare exhibits; there may be entertainments with choral singing, concerts, dialogues, playlets, impersonations, motion pictures, nights of all nations, readings, story-telling, tableaux, vaudeville stunts.

There may be spelling, arithmetic, grammar, pronunciation matches; contests in declamation, essay writing, or story-telling; there may be debates, which will combine interest in competition with discussion of questions of civic or other educational nature. Besides, there will be occasions of a purely social character such as banquets, parties, celebrations, folk-dances, etc. Gymnastic and athletic contests will be sure to enlist the interest and participation of all the children.

The social center is a place where all the people of the neighborhood, rich or poor, old or young, can meet for mutual benefit and enjoyment. And since it is the common meeting place for all the people and since the expense is met by funds derived from public taxation, the use of the school

property must be for all on equal terms and not devoted to sectarian or partisan purpose. In this way the full value of the school plant will be realized and the interests of the community will be drawn together upon the common object of the school and all that supports it. In this way an interest in the building itself will be promoted, to make it fully adequate for school and community center purposes.

The Unit of Democracy. Thus the dream of Jefferson comes true. It was his idea that the school community should be the ultimate unit of American democracy. In the words of Commissioner Claxton — “The ultimate unit in every State, Territory, and possession of the United States is the school district. Every school district should therefore be a little democracy, and the schoolhouse should be the community capitol.”

The School Needs the Social Center. The school needs the social center for the opportunities it affords the children for expression in one form or another. The native impulse of communication craves an audience. The best possible audience is not the teacher but a gathering of neighbors and friends. Thus the interests of the school will become the interests of the community, and the problems of the community will engage the attention of the school. In this way as the pupils grow older they gradually pass in an easy transition from the school to their place as citizens.¹

These matters often succeed better in the cities than in the

¹ See Calendar No. 335, Report No. 391, United States Senate, 2nd Session, 63rd Congress, for an address by Hon. Woodrow Wilson, Gov. of New Jersey, at Madison, Wisconsin, on “The Social Center: A Means of Common Understanding.” And one by Mr. Edward J. Ward on “The Schoolhouse is the Civic and Social Center of the Community.”

rural districts. But the greater need is in the country schools. Life there is usually too greatly lacking in those social advantages that lure people to cities. There is too little going on, as a rule, to engage the mental energies of the children with the result that neglect of use results in a weakness somewhat the same as if the powers were lacking in the first place.

Child Welfare a Universal Interest. The movements mentioned in this chapter are a selected few of thousands that have been organized in recent years in all countries to promote child welfare in one phase or another from infancy to youth. There are not less than 7,000 organizations in this country engaged in activities that relate to the home and the school. Special efforts of the U. S. Department of the Interior with the coöperation of 75,000 qualified workers are directed toward conserving child life in the rural districts of 2,100 counties.¹ Most of the States, through their boards of health, publish and distribute pamphlets on sanitation and the care of children. The universities, through their extension work in home economics, are engaged in the same service. Eight of them offer courses in scout leadership. Five states and 39 cities have established bureaus of child hygiene. Besides, private associations in many cities and villages carry on some form of child welfare work.²

The Promise of the Profession. This is the dominant

¹ Lombard: "Home Education." Bulletin, 1919, No. 3, U. S. Bureau of Education.

² West: "Child Care." Care of Children Series, No. 3, Children's Bureau, U. S. Department of Labor. With bibliography including an extensive list of Government Publications on Child Welfare.

interest of our time. Some one has called this the century of the child. The profession of teaching is renewing its life with a constantly enlarging horizon. Its body of knowledge is rapidly growing in extent and in scientific accuracy. To know the main phases of the whole school situation is now essential for intelligent citizenship. And the young teacher has a right to feel that now more than ever before in the world's history the work of the school with all that concerns it is rich in the possibilities of cultural growth and worthy of the devotion of a life-time of service.

APPENDIX

STANDARDIZING REQUIREMENTS

STATE control of education has given rise to the need of standards. Some of the states define by statute the province of each type of school and make out a list of requirements that must be met by local boards in order to determine to what extent, if at all, the schools may share in the annual state appropriation.

The Kindergarten. This has been recognized for many years as a part of city school systems, but has not been the subject of state school legislation until a few years ago. Now it is everywhere regarded as an effective educational instrument both as it affects the children themselves and for its influence upon the homes of the children. In several of the states kindergartens must now be established on petition of a specified number of parents. Although it came originally from abroad, it has developed a practice that acknowledges no foreign inspiration. It has had so marked an influence in the methods used in the regular school grades that it is now considered desirable that those preparing to teach in the grades above it should study the methods of the kindergarten.

The kindergartner is not supposed to be a teacher in the ordinary sense of the term. She takes rather her place among the children of her circle, is in full sympathy with child nature, and with an adequate repertoire of dances,

songs, stories, games, and motives for constructive plays in sand, clay, wood, and paper, she brings about situations that call forth the spontaneous activities of the children. Incidentally the child develops physically and socially, learns good manners and gains ideals of behavior, and acquires information and a certain degree of skill of definite value in the first grade of the elementary school to which he is next admitted.

Merging the Kindergarten and the Elementary School. It is believed that more of the free spirit of the kindergarten should be introduced in the grades, particularly in the lower ones. Some of the states have revised their statutes so as to provide for kindergartens as a part of the common school course. Many administrators believe that this can best be done by merging the two organizations. In some places this change has already been made, the name kindergarten having disappeared, while its spirit is expected to remain.

What Is an Elementary School? Beginning at the age of six the child enters the first grade of the elementary school and continues under the traditional plan for eight years. An elementary school has been defined by statute as "one in which instruction and training are given in spelling, reading, writing, arithmetic, English language, English grammar and composition, geography, history of the United States including civil government, physiology, and hygiene. Nothing herein shall abridge the power of boards of education to cause instruction and training to be given in vocal music, drawing, elementary algebra, the elements of agriculture, and other branches which they deem advisable for the best interests of the schools under their charge."

Classes of Elementary Schools. In certain states where standards are required as a condition for state support, elementary schools are divided into classes. In Ohio the following are the minimum standard requirements for a first-grade one-room school:

1. Clean buildings and yard
2. Building in good repair
3. Separate screened privies or inside toilets
4. Maps of Ohio and the United States
5. Library of not less than fifty volumes
6. 100 square feet of slate or composition blackboard. The lower margin of not less than twelve lineal feet of which board shall be within two feet of the floor.
7. A system of heating with ventilation — minimum a jacketed stove.
8. Buildings hereafter constructed to have in connection with them not less than one acre of land for organized play.
9. Teacher with at least a three-year certificate.
10. Agricultural apparatus to the value of \$15.

These are the minimum standards that have to be maintained or the school will not receive its annual state appropriation. A one-room school of the second grade is required to fulfill the first three conditions only.

Graded Schools. In country villages where the number of pupils is too large for one teacher or room, the elementary school is divided between two or more teachers each taking in charge usually several grades classified according to age and advancement of pupils. This is called a Graded School.

Consolidated Schools. The consolidated school is a centralized school (elementary or high school) which two or more districts combine to establish and maintain. When the attendance in a rural district with a depleted population runs

low and especially if there are two or more such districts in the same territory the expense per pupil of maintaining the school comes high even with a cheap and unsatisfactory equipment. When in Ohio the average daily attendance of any school for the preceding year has been below ten, such a school shall be suspended and the board of education shall provide for the conveyance of pupils attending such school to a public school in another district. This condition has also given rise to the demand that several weak districts abandon their several schoolhouses and combine into one consolidated or central school where, with usually no greater expense, the number of pupils will justify a better equipment and better paid teachers. In many of the states this type of school is especially favored with appropriations but it must come up to certain standards. In Ohio, the minimum requirements are the same as 1, 2, 3, 4, 5, 6 of the rural one-room school of the first class; with additional requirements for a first grade and a second grade consolidated school as follows:

1. Library of not less than 150 — second grade consolidated, 100 volumes.
2. A case of not less than six maps, including map of Ohio — same for both grades.
3. Buildings hereafter constructed to have at least three acres of land in connection with each school, one for agricultural and school garden purposes — second grade consolidated, two acres.
4. Three rooms and three teachers or more on full time, one teacher to have at least a three-year certificate — two rooms and two teachers in second grade.
5. Agricultural and domestic science apparatus to the value of at least one hundred dollars — for second grade, agricultural apparatus to the value of at least twenty-five dollars.

6. Two teachers to be employed for ten months each, one teaching agriculture during the school term and to supervise agriculture during part of the vacation. The other to teach domestic science at the same periods of time—second grade, one teacher to be employed either for agriculture or domestic science or both.

According to Ohio law — “After September 1st, 1915, the holder of a certificate of graduation from any one-room rural school of the first grade or of any consolidated rural school which has been recognized shall be entitled to admission to any high school without examination. Graduates of any elementary school shall be admitted to any high school without examination on the certificate of the district superintendent.”

What Is a High School? The Ohio statute defines a high school as “One of higher grade than an elementary school, in which instruction and training are given in approved courses in the history of the United States and other countries; composition, rhetoric, English and American literature; algebra and geometry; natural science, political or mental science, ancient or modern foreign languages, or both; commercial and industrial branches; or such of the branches named as the length of its curriculum makes possible.”

High schools are classified in many states. Usually there are three grades. In Ohio:

First — not less than 4 years of 32 weeks and not less than 16 courses

Second — not less than 3 years of 32 weeks each and not less than 12 courses

Third — not less than 2 years of 28 weeks and not less than 8 courses

(A course of study has been defined as consisting of not less than four recitations per week throughout the school year.)

With respect to graduation from high school, the statute says: "After September 1st, 1915, the holder of a diploma from a first grade high school shall be entitled to admission without examination to the academic department of any college or university which is supported wholly or in part by the state."

All institutions of high school rank whether public or private go under the name of secondary schools. They follow the elementary schools and have generally in times past functioned as preparatory to institutions of collegiate grade. The college is vaguely defined as "an institution of a more advanced type than the high school, in which such studies as science, mathematics, and the languages are further studied with higher ideals of breadth and thoroughness." And this kind of school, the goal of the high school, is preparatory to graduate work in the university. Finally, a university is an aggregation of colleges under one and the same management.

Time Units. The school year in the different states is of varying length. In the larger cities it consists of ten school months. As is well known, the school month consists of twenty days, the school week of five days, and the school day of six full hours or less. With the scope of the course fixed, a longer day or a longer week or a longer school year or all of these would reduce the whole number of years a child would be required to spend in school.

The years of school life and the corresponding age of the pupil in years, under ordinary conditions, are as follows:

	School life in years	Age of pupil
Graduate School	19	24
	18	23
	17	22
College	16	21
	15	20
	14	19
	13	18
	12	17
Senior High School	11	16
High School	10	15
	9	14
Junior High School	8	13
	7	12
	6	11
	5	10
	4	9
Elementary School	3	8
	2	7
	1	6 (bet. 6 & 7)

If the school day were increased to seven hours from six, the gain in six years would be one year; if increased to eight, the gain would be two years in six. In a six instead of a five day week, a six years' course could be finished in five and a twelve years' course in ten years. In 240 instead of 200 days per year, a twelve years' course could be finished in ten years.

"In general, it is believed that wherever school boards can find the means, the present¹ emergency is an opportune time for re-

¹ Teachers' Leaflet, No. 3, April, 1918, Government Policies Involv-

adjusting the schools on an all-year-round basis, with a school of 48 weeks, divided into four quarters of twelve weeks each. The schools would then be in continuous operation, but individual teachers and pupils would have the option of taking one quarter off at prearranged periods for needed change."

Under the traditional system a pupil may complete the elementary course in eight years, the high school course in four, the college in four, and the professional or graduate school in three. The new arrangement plans to provide for the completion of the elementary course at the end of the sixth school year and the high school in six more or it divides the following six years into periods of three years each. In a few states private institutions whose work is partly in the high school and partly in the college field have been standardized as Junior colleges, the last two years being equivalent to the first two of college. If all these newer divisions of the whole time of school life are considered, a student can finish a general academic course at the end of the sixth, ninth, twelfth, fourteenth, or sixteenth year and leave school or remain for further work of a general character or by a differentiated course prepare for a life calling.

Differentiation of Courses. Every one who is at all conversant with school work knows at least in a general way what is done in the first six grades of the elementary school. The character of the work and aims is about the same everywhere. Here we expect the pupil to learn to write a legible hand, to speak and write in good English, to read with such habituation to the process that it may be done rapidly and with pleasure, to perform the fundamental

ing the Schools in War Time, p. 3, Dept. of the Interior, Washington, D. C.

operations of arithmetic with facility and accuracy in application to practical life needs, and to gain ideals in the enjoyment of leisure.

The differentiation comes after the sixth year or after the eighth year in the elementary school. In small high schools there will naturally be few courses to choose from. A large high school will have an Intermediate School, or Junior High School, after the sixth year, covering the work in three years and then the High School proper with different courses named, perhaps, as follows: Literary, Scientific, Domestic Science and Art, Business, Agriculture, Trade.

In one of the large high schools of the Middle West¹ there is possible after the eighth grade a choice among ten four-year courses. They are classified as academic and technical:

Academic Courses

General
Classical
Domestic Science
Manual Training

Technical Courses

Agricultural
Art
Commercial
Music
Technical Coöperative (Boys)
Technical Coöperative (Girls)

The art course is taken in part at the local art academy. The music course is taken in part in music schools outside. The coöperative courses are taken on the coöperative plan of alternate two weeks in school and in shop. The Classical and other Academic Courses are preparatory for higher institutions.

After the age of fourteen is reached a vocational course of

¹ Hughes High School, Cincinnati, Ohio.

one or more years is available through the provisions of the Smith-Hughes Act, or Vocational Education Law. Such courses may be in machine shop, printing, carpentry, home economics, agriculture, sheet metal working, building construction, automobile repair and construction, drawing and design, etc. Every one of the forty-eight states has accepted the proposal of the law, and the state board of vocational education of each in coöperation with the national board is making out vocational courses for pupils above the age of fourteen and for the training of teachers for this work.

Standard Schools. State school laws do not cover all the details of school organization. This is left to a large extent to the local administration. The state lays down the minimal requirements. Administrators see that these are met and extended. Hence in some states the board of administration publishes desirable standards that should be reached.¹

Illinois publishes ² a list of the requirements for one-room schools. If, upon inspection by a member of the state department, these have been met a diploma will be awarded to the school and a plate will be placed above the door on the outside, *Standard School*. If local school officers wish to go higher than the essentials of a good one-room school as represented by the name a *Standard School*, they can aspire to the distinction of having a name plate above the door indicating a *Superior School*. In this case, if after

¹ Desirable Physical Standards of a Good School, Dept. of Pub. Instruction, Trenton, N. J.

² The One-room and Consolidated Country School of Ill., Circular No. 124, Sixth Edition, 1917.

inspection the school is found to merit the distinction, a diploma is awarded on a special occasion in the presence of invited guests, including the state superintendent himself.

The same state publishes also a list of *Requirements for a Standard Village or City Elementary School* in circular form for general distribution. This list includes besides physical conditions and equipment an extensive outline of the requirements in regard to supervision, teaching and discipline, qualification of teachers, professional growth, teachers' meetings, parent-teacher associations, courses of study, salary of teachers, length of term, janitor service, board meetings, enrollment not fewer than 15 and not more than 45 per teacher, and the standard of work done. A representative of the state office makes the inspection. If the requirements are met, a diploma is awarded.

Score Cards. This is a plan of judging the school conditions particularly as related to the buildings and equipment. The score card had its origin in agricultural colleges, in judging the points of horses and other live stock. This plan has been followed in judging schools by making out a list of desired conditions. These are weighted, some bringing more points to the final score than others.

The following is the Montana Score Card:

STANDARD OR SUPERIOR SCHOOL RATING CARD ¹

FOR

MONTANA RURAL SCHOOLS

1919

To Be Filled Out and Reported by County Superintendent After Visit and Inspection.

..... County
 Visited.....19.. Reported.....19..
 Name of School..... Dist. No.....
 Rating.....Standard or Superior.....
 Teacher or Principal.....
 Address

School Clerk.....
 Address

.....
 County Superintendent.

.....
 Approved by Rural Inspector.

If visited by Inspector, date.....
 Date name plate was sent.....
 To whom sent.....

¹ Courtesy of State Department of Public Instruction, Helena, Montana.

STANDARD OR SUPERIOR SCHOOL RATING CARD.

I.

SCHOOL YARD — 5 Points.

		Allowed by Co. Supt. or Rural Insp.
	Perfect	
1. Flag, 4' x 6', flying, weather permitting	.5	.....
2. Grounds well fenced. Good walks from road to front entrance; from building to out- buildings	1.5	.....
3. Playground adequate and kept in good condi- tion	.5	.....
4. Sanitary screened toilets, or indoor toilets, se- cluded, provided with indoor latch, toilet paper, urinals for boys and kept clean and free from marks	2.5	.....

II.

SCHOOL BUILDINGS — 10 Points.

1. Floor, air, and window space, location of windows and vestibule as required by law	1.5	.....
2. Standard heating and ventilating system ..	1.5	.....
3. Lighted cloak rooms with adequate hooks; warm closet or shelves for dinner buckets	1	.....
4. All windows fitted with good rolling shades	.5	.....
5. Paint or finish outside and inside in good condition. Plastered walls and ceilings kalsomined with a light tint	1	.....
6. Entire interior of building cleaned at least once in three months. After social func- tions or community affairs building and equipment left as found	2	.....
7. Buildings and equipment kept in repair	1	.....
8. Extra rooms — closet or storeroom, library alcove, fuel room (or convenient shed) ..	1.5	.....

III.

SCHOOL EQUIPMENT — 21 Points.

1. Study chairs or single patent desks of at least three sizes fastened to strips or the floor	1	.....
2. Children seated in proper sized seats and no child unable to reach the floor with his feet	1	.....
3. At least twenty linear feet of good black-board, four feet wide, set from 26" to 30" from the floor, and fitted with sanitary chalk troughs	1	.....
4. At least two standard framed pictures	1	.....
5. Supply of at least four types of primary materials, as: Word and sentence cards; domino cards, toy money, etc.; folding and cutting papers, blunt scissors, paste; rags, raffia, corn husks, yarn, warp, weaving frame; clay, sand; drawing papers, pencils, water colors	1.5	.....
6. At least two sets of supplementary readers for lower grades or classes; all basal texts	1	.....
7. Library books purchased early in school year: list approved by County Superintendent before purchase is made	1	.....
8. Good library, bookcases with books kept in place properly labeled, and library rules followed. Bulletin boards provided	1.5	.....
9. An unabridged dictionary in good condition with stand or shelf	1	.....
10. Good map of Montana; at least six other good maps in case; suspended globe; weights and measures; good supply of bulletins and educative free materials	2	.....
11. Pure water supply; covered water cooler with spigot and individual or paper drinking cups, or sanitary bubbler	2	.....
12. Sanitary towels, wash basin, floor brush, sweeping compound, shoe scrapers, good pencil sharpener	1.5	.....

13. Building and equipment clean and orderly ..	1	.....
14. Musical instrument; community song books	1	.....
15. Playground equipment, at least three features	1	.....
16. Household Arts equipment for hot lunch; Manual Training equipment — tools, bench, lumber; Agricultural equipment — seed testers, containers, collections of specimens and products, bulletins	1.5	.....
17. Good convenient boarding place or teacherage provided for teacher	1	.....

IV.

THE TEACHER — 38 Points.

1. At least one year of professional training ..	3	.....
2. First or higher grade certificate granted be- fore opening of school	2	.....
3. At least two books from Teacher's Reading Course read within a year and reports written	1	.....
4. At least one educational journal used	1	.....
5. Daily program with seat work indicated, posted and followed	1.5	.....
6. Classes combined and alternated according to plan in latest State Manual; 24 or fewer classes daily	1.5	.....
7. Working knowledge of State Course of Study, and used as required by law	2	.....
8. As much time and attention given to lower as upper grades	1	.....
9. Daily preparation of work for both study and recitation period	3	.....
10. All children profitably employed during study periods	2	.....
11. Good order maintained at all times	1	.....
12. Neatness of appearance and of work; well modulated voice	1	.....
13. Good work in agriculture, household arts, in- dustrial arts and music	2	.....

14. Efficiency of the teaching as determined by motivation of class and seat work; ability to judge relative values by pupils; ability to organize data shown by pupils; development of initiative in pupils; ability to apply knowledge shown by pupils	5	.....
15. Supervised play	1	.....
16. Live in the community seven days in the week	1	.....
17. Teacher retained entire school year	.5	.....
18. Teacher retained for second year	1.5	.....
19. All homes of pupils visited; participation in community activities	1	.....
20. Unquestioned patriotism and possession of high moral standards	2	.....
21. Neatness, accuracy and fullness of all records and reports	1	.....
22. Responsive attitude toward supervision	3	.....

V.

PUPILS—9 Points.

1. All children of school age, who have not finished the eighth grade, in regular attendance, unless excused for good cause	2	.....
2. Regularity and punctuality of attendance of all pupils regularly enrolled	2	.....
3. Neatness in care of books and desks; training in thrift and good citizenship	2	.....
4. Cleanliness and neatness in personal appearance; respectful bearing of pupils	1.5	.....
5. Loyalty, patriotism, obedience, industry, courtesy and other virtues established in children	1.5	.....

VI.

COMMUNITY ACTIVITIES—17 Points.

1. Regular community meetings; meetings of social organizations having educative value	1.5	
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2. School represented in Boys' and Girls' club work at county or state fair	1.5	
3. Play festival, field meet, school or community fair, or county spelling or arithmetic contests	1.5	.....
4. Special day program, an outgrowth of regular school work	1.5	.....
5. School visited by all trustees and at least three other patrons	2	.....
6. Strong evidences of active coöperation of patrons and fine community spirit	5	.....
7. Commendable improvements by local initiative not listed above	1	.....
8. Session of not less than 170 days in year	3	.....

THE RATING CARD.

PURPOSE: To improve every county and village school through better buildings, better equipment, better teaching, and finer community coöperation, name plates are issued by the State Superintendent to all schools which receive satisfactory standings on this rating card. The aim is to require only those things necessary to a good school. Essentials, rather than minor details, will determine the matter, but the school must be a good one.

PLAN: The county superintendent should furnish every teacher, school clerk, and school trustee in her county with a copy of the rating card at the opening of each school year. The teacher should score with a pencil each point on the card (except those pertaining to the teacher) previous to the county superintendent's visit, and submit the same to her at that time. The county superintendent should then check up the list and complete the scoring. All schools are to be rated, even though they are not ready for standardization. To all schools whose rating card shows a total score of 70 or more points, as rated by the county superintendent, with the assistance of the teacher, *and when approved by the State Inspector of Rural Schools*, one of two name plates will be awarded by the State Superintendent. The rating of the several rooms in consolidated and village schools will be averaged in determining the total score of these schools.

STANDARD SCHOOL: A name plate bearing the words "Standard

School" will be awarded to these schools scoring between 70 and 89 on the rating card. To become a standard school all the forces in the community should work together. The school trustees, the teacher, the pupils, and the patrons of the school have each a share in the work of improving the school. Every community that is found to be actively engaged in building a good school deserves honorable mention, even though the name-plate cannot be obtained at the time. **SUPERIOR SCHOOL:** There is a laudable desire on the part of some school officers to make their school as nearly perfect as possible. To encourage this a name-plate bearing the words "Superior School" will be awarded to schools rating 90 or above on the rating card. A superior school is one that is taught by a teacher of superior qualifications and with the highest efficiency, in a house that is as nearly perfect in all the essentials as possible and furnished with everything needed. The community must show the interest that the claim of such a school implies.

RETAINING THE NAME PLATE: Schools are standardized for an indefinite period of time. The approved lists of all Standard or Superior schools are kept on file in the office of the State Superintendent. If it is found, upon later inspection by the county superintendent, or State Inspector of Rural Schools, that a school no longer has the required score for standardization, conditions must be improved without delay, or the name-plate will be removed. Every school should try not only to secure or retain the name-plate, but also to build a finer and better school from year to year.

Score Card for City Buildings.¹ A score card for city buildings was developed as a part of the advanced work in educational administration in Teachers College, Columbia University, New York. Its basis for scoring is a thousand points. It sets high standards such as one might expect in school buildings of the larger American cities. The Montana card is evidently intended to stimulate improvements particularly in the rural one-room schools, which seem to need encouragement in all the states.

¹ Strayer: "Score Card for City School Buildings," Teachers College, Columbia University, 1916, 11 pp.

With these score cards pointing the way, others may be arranged to suit local conditions in any state or city. That it may serve in a similar way, the following score card has been arranged in view of standards set in the preceding chapters, and particularly for schools in small cities, villages, and consolidated districts. The basis for scoring is five hundred points.

SCORE CARD FOR SCHOOLS IN SMALL CITIES, VILLAGES, AND
CONSOLIDATED DISTRICTS

I

BUILDINGS AND GROUNDS

1. Environment—moral, physical, esthetic	10
2. Size of grounds, whole plot not less than 200 sq. ft. per child	5
3. Condition of grounds, trees, flowers, grass, concrete walks, playground	10
4. School garden	10
5. Good walls and ceilings, properly tinted; shades; no leaks in roof	5
6. Good floors, scrubbed at least once a month; sweeping compound used	10
7. Floor space 20 sq. ft.; air space 250 cu. ft. to 300 cu. ft. per child	10
8. Built-in cupboards and lockers for materials used in primary work	5
9. Cloakrooms—ample, separate for boys and girls, each with one entrance only and that from schoolroom side..	7
10. Finish inside and outside	5
11. Ventilation satisfactory	10
12. Windows—unbroken, clean, one fifth of floor space, left and rear	10
13. Artificial lighting, classrooms (gas—one 3-foot burner per 12 sq. ft.; electric light—one candle power per 2 sq. ft.)	5

14. Toilet rooms properly located, ample, clean, and well ventilated 20
15. Assembly hall, or auditorium, with capacity for at least half the number of pupils accommodated in the classrooms 15
16. Gymnasium, at least a room 40 x 60 with a height of at least 15 feet 10
17. Laboratory, equipped for at least one science, with apparatus to the value of \$250 20

II

EQUIPMENT

1. Desks, single, adjustable—movable tables and chairs for first three grades 10
2. Teacher's desk and chair 2
3. Primary work equipment 8
4. Library, not less than 300 volumes of standard literature and science, a standard cyclopedia, and in each room above the fifth grade an unabridged dictionary..... 15
5. Full set of maps; also globes; weights and measures; scales for weighing 10
6. Blackboard, slate or composition, not less than 100 sq. ft., of proper height, fitted with chalk troughs; dustless crayon 5
7. Good water from drinking fountains, one at least to 6,000 sq. ft. of floor space 10
8. Sinks, lavatories, sanitary towels 10
9. Fire prevention—fire drills; standard chemical fire extinguishers, one to 2,000 sq. ft. of floor space; trip fire gongs; standpipe and 1½ inch hose in basement to reach any part of the building 15
10. Equipment for manual training and home economics 15
11. Free textbooks 5
12. United States flag and flag staff 5
13. Playground equipment 10

III

THE SCHOOL

1. Medical inspection, including school nurse	20
2. Attendance, averaging not less than 90 per cent of the school enrollment	20
3. One teacher to every 30 or fewer pupils enrolled.....	10
4. High School teachers, at least college graduates; other teachers below high school at least two-year Normal course after high school graduation	20
5. School visited by all the members of the board	10
6. Teachers retained second year or longer	8
7. Popular athletic games for boys and girls	10
8. School savings bank	10
9. School year not less than 36 weeks	10
10. Passing on to higher institutions; 60 per cent from the grades and 20 per cent from the high school	15

IV

SCHOOL — HOME — COMMUNITY

1. School represented in garden, corn, potato, pig, poultry, or other clubs	20
2. School exhibits	15
3. Civics or literary club, eighth grade and above	15
4. Community social gathering, with program prepared wholly or in part by the students, occurring once a month.....	15
5. Home project work	15

Total points 500

NOTE.—Of those who in one way or another gave assistance in working out the above, special mention should be made of Mr. F. O. Horton, a graduate student in education in the University of Cincinnati.

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